ISSN 0043 9088

PRA

Paint Research Association

Volume 62, January – December 1989
Abstracts 0001 – 10007

WORLD SURFACE COATINGS ABSTRACTS

ANNUAL INDEX 1989

PERGAMON PRESS OXFORD • NEW YORK
BEIJING • FRANKFURT • SÃO PAULO • SYDNEY • TOKYO • TORONTO

WORLD SURFACE COATINGS ABSTRACTS

produced and edited by the Paint Research Association

Editorial/Production Staff
N R Morgan, BSc, PhD
L A O'Neill, MSc, PhD
T G Lunt, MA, PhD
S Morrell, BSc, MA, ALA
D D Ksiezak
H J Jotischky, MA, PhD, ALA
S C Haworth, BSc, MA, ALA

Aims and Scope
World Surface Coatings Abstracts (WSCA) provides a comprehensive coverage of all aspects of surface coatings culled from the worldwide journal literature, patents, government regulations, standards, conference proceedings and books. Some 10,000 abstracts are published annually and are also added to a computer held file which now contains some 130,000 records dating back to 1976. The computerisation of WSCA enables a number of other services to be provided:

Online Searching
The complete database is available for online searching using your own terminal through Orbit Search Service. Alternatively searches can be carried out on your behalf by the Paint Research Association.

SDI's (Selective Dissemination of Information)
A monthly print-out of abstracts based on standard selections or on your personal requirements.

Magnetic Tape Leasing
Industry standard 9 track mag-tapes containing the database can be leased for in-house production of information services.

Subscription Rates
Annual Subscription Rate (1990) including annual index: DM2310.00. Two year rate (1990-91) DM4389.00. Sterling, Dollar, and PRA Member Rates are available on application. Prices are subject to change without notice.

Editorial Office:
Paint Research Association
Waldegrave Road
Teddington
Middlesex TW11 8LD, UK
Telephone: (01) 977 4427-9
Fax: (01) 943 4705
Telex: 928720

Subscription & Publishing Offices:
Pergamon Press plc
Headington Hill Hall
Oxford OX3 0BW, UK
Telephone: (0865) 64881
Fax: (0865) 60285

Subscription enquiries from Customers in North America should be sent to:
Pergamon Press Inc
Maxwell House
Fairview Park
Elmsford
New York 10523
Telephone: 914 592 7700

Online searching
Orbit Search Service
Achilles House
Western Avenue
London W3 0UA
Telephone: (01) 992 3456

Customers for online in North America should contact Orbit Search Service
8000 Westpark Drive
McLean
VA 22102, USA
Telephone: 703 442 0900
(800) 45-ORBIT

♾ ™ *The paper used in this publication meets the minimum requirements of American National Standard for Information Sciences — Permanence of Paper for Printed Library Materials, ANSI Z39.48–1984.*

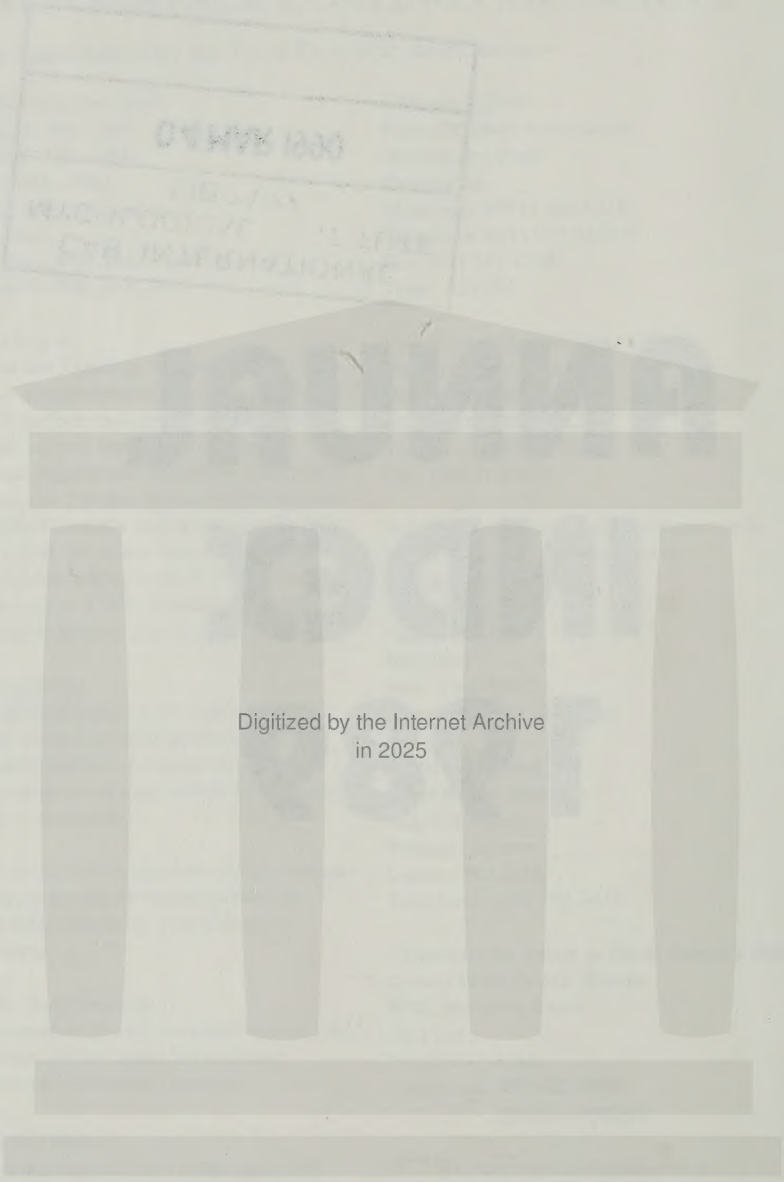
© 1990 Pergamon Press plc on behalf of Paint Research Association. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise without permission in writing from the copyright holder.

NO LOCATION

CAB INTERNATIONAL
MYCOLOGICAL INSTITUTE
LIBRARY

04 MAR 1990

ANNUAL INDEX 1989



Digitized by the Internet Archive
in 2025

https://archive.org/details/world-surface-coatings-abstracts_january-december-1989_62_index

GUIDE TO READERS

The Index is divided into two sections, Author and Subject. The abstract serial numbers run from 1 to 9,000–10,000 each year; numbers followed by the letter 'P' indicate patents.

Author Index

The Author Index is based on *all* authors/patentees of an article or patent, unless there are more than four, when only the name of the first author will have been taken.

To facilitate searching, abstract numbers in the Author Index are grouped under the WSCA section numbers if there are more than five entries under one author/patentee.

Russian names are transliterated in accordance with the standard English system. Where articles by Russian authors have been taken from French or German journals, the spelling of their names will have been altered, if necessary, to render the Author Index consistent.

Subject Index

The format of the Subject Index has been improved relative to the layout used from 1978 to 1983. Continuity in the main headings has been maintained, with minor exceptions. The main alterations arise from the dropping of secondary headings; for example, 'Cathodic' in

Electrocoating
corrosion resistance
Cathodic
epoxy/polyamine products

In some cases, extra main headings have been created; for example, 'Electrocoating, Cathodic'

Electrocoating
corrosion resistance
Electrocoating, Cathodic
epoxy/polyamine products

Cross references are included where the main heading is separated from that used in previous years by intermediate, unrelated terms; e.g, 'Printing' is not immediately followed by 'Printing, Screen'.

Certain compound terms, such as 'Acrylic/Urethanes' and 'Hazardous Wastes', were 'nested' in indexes prior to 1984, i.e. entries were made under both the complete term, and also under the second term, using the first as an adjective. In the present Index, one version of the heading has been chosen and a cross reference made from the other. An exception to this is named copolymers, e.g. 'Butyl Methacrylate/Methacrylic Acid Copolymers', where no cross references are made.

The subject matter of the abstracts, not merely their titles, has been examined in the construction of the Subject Index. To avoid undue proliferation, indexing terms have been chosen for each abstract with attention to terms already used for others, and to the level of specificity of the abstract. In searching on a given subject (e.g, phosphating), broader (e.g, pretreatment) and narrower (e.g, zinc phosphate) terms should also be considered.

Likewise, synonyms or near-synonyms have been gathered under single terms; thus, for electrophoretic coating or electropainting, electrocoating has been chosen. Cross references have been included where appropriate.

Chemicals, an important part of this index, are particularly prone to problems in control of synonyms and detail of indexing. Locants (e.g, ortho-, 1,2-) have been removed from chemical names, as have most substituent groups. Where reference is made to the toxicity of a specific chemical, however, substituent groups are more likely to be included. Therefore, as with other types of term, both the broader and narrower concepts should be considered. If the reader's first choice of term (e.g, diisocyanatotoluene) is not found, synonyms should be tried (in this case, toluene diisocyanate).

Polymers are indexed in various ways, depending upon the abstract, viz: under the monomer (copolymers of, etc.) or the polymer (vinyl chloride polymers, vinyl chloride copolymers, polyvinyl chloride).

As properties and analytical methods are only used as primary indexing terms (main headings) if they are considered to be an important part of the article, abstracts referring to such concepts for specific materials should also be searched.

Statistics, e.g, for the German paint industry, are found under the subject (paint industry) rather than the country. Legislation and regulations for specific countries may be located under these two terms.

AUTHOR INDEX

A

ABADIE M J M — 2982.
ABADZHEV S S — 2289.
ABASSI F — 3276.
ABATE K — 9399.
ABBOTT J R — 535.
ABBOTT S D — 1904.
ABBOTT S J — 4234.
ABD EL-GHAFFAR M A — 1759, 6808.
ABD RASHID M — 2652.
ABDEL-MALIK M M — 8610.
ABDEL-MOHSEN F F — 435.
ABDEL-RAZIK E A — 793.
ABE K — 9840.
ABE Y — 1027, 2616.
ABEL'SKAYA B YA — 3781.
ABELL J E — 547.
ABELL M A — 3048.
ABLEWHITE J — 6277.
ABOUDALLE A — 544.
ABRAMOV I — 487.
ABSI-HALABI M — 8143P.
ABSOLON O — 5783.
ABU-HADEED A M — 3638.
ABUBAKAR S D — 4470.
ABUIN E B — 2983.
ACAMOVIC N M — 6974.
ACHAR B N — 8611.
ACHENIE L K E — 1720.
ACHESON INDUSTRIES INC — 6741P, 7609P.
ACHILIAS D — 830.
ACKERMANS H — 5276.
ACKMAN R G — 9708.
ACOSTA I L — 3675.
ACOSTA J — 2875.
ACUNER A — 6431.
ACUSHNET CO — 9546P.
ACZEL J — 5499, 7835.
ADACHI H — 191.
ADACHI K — 1203.
ADACHI SHIN-SANGYO — 1784P.
ADACHI T — 2023.
ADAMCHUK M R — 6440.
ADAMCOVA Z — 4006.
ADAMS H-N — 5637.
ADAMS J P — 2408.
ADEBAYO O — 2804.
ADEEYINWO C E — 5277.
ADEKA ARGUS CHEMICAL CO — 59P, 2308P, 7284P, 8780P.
ADEKA ARGUS INDUSTRY CO — 60P.
ADGER KOGYO CO — 1012P.
ADKINS B — 9727.
ADKINS R T (EDITOR) — 728.
ADLER B — 8612.
ADLER-MAIHOFER M — 2088.
ADLEY D P — 6885.
ADRIEN D O — 3028.
ADURU S — 2004.
ADVANCE PROCESS SUPPLY CO — 4227P.
ADVANCED CHEMICAL TECHNOLOGIES INC — 342P, 1048P.
AECHTNER S — 1533.
AEIYACH S — 4897, 7356.
AFAGONOV G I — 7383.
AFFROSSMAN S — 8750.
AFOLABI O A — 8997.
AGAFONOV G I — 9021.
AGALAROVA T A — 4298.
AGAPOV E P — 1649.
AGARWAL R — 9507.
AGARWALA J P — 8660.
AGARWALA V A — 346.
AGATHONOS P — 7645.
AGBONLAHOR S O — 2637, 3447, 6725.
AGENCY OF INDUSTRIAL SCIENCE & TECHNOLOGY — Section 02: 4820P, 4821P, 6378P. Section 04: 43P. Section 22: 4960P. Section 30: 3332P. Section 32: 938P. Section 38: 5033P. Section 40: 3378P. Section 44: 8299P. Section 46: 6616P. Section 68: 8608P. Section 80: 4646P.
AGG R — 9801.
AGGER R T — 6580.
AGOSTINHO M — 207, 7305.
AGRAWAL O P — 2866.
AGRAWAL P K — 8379.
AGRAWAL R B L — 5132.
AGUILLON J C — 6074.
AHMAD SHAKRI M S — 2652.
AHMED M J — 1523, 1524, 1555, 2367.
AHOLA P — 9400.
AHON I — 8847.
AIDA T — 2514.
AIKOH CO — 5818P.
AIR PRODUCTS & CHEMICALS INC — Section 14: 8065P. Section 18: 1569P. Section 20: 6484P, 6485P. Section 22: 3297P, 4104P, 6503P. Section 36: 6550P. Section 40: 1693P.
AISHIN KAKO CO — Section 08: 5651P, 8020P. Section 32: 1650P. Section 36: 949P, 4173P. Section 64: 1856P, 1857P, 3579P, 4420P, 8519P, 9578P.
AISIN SEIKI CO — 454P, 5993P.
AJINOMOTO CO — 1570P.
AKADA H — 1566.
AKADEMIE DER WISSENSCHAFTEN DER DDR — 1509P.
AKAR A — 6431.
AKASHI M — 4998.
AKAZAWA T — 110.
AKCHURIN R YU — 2614.
AKELAH A — 2279, 9508.
AKERMAN T — 6167.
AKIYAMA T — 4499.
AKKERMAN J M — 5211.
AKZO AMERICA INC — 5190P, 5969P, 8021P.
AKZO COATINGS — 3459.
AKZO NV — 224P, 4174P, 8482P.
AL'BERTINSKII G L — 7440.
AL'BESTINSKII G L — 9021.
AL'KAEV F I — 3218.
AL-HADDAD H Y — 7068.
AL-HASHEM A — 347, 1049.
AL-MALAIKA S — 3144, 3992.
ALADZEM M — 9452.
ALAK A M — 6886.
ALALAURI H — 7427.
ALARIE Y — 7015.
ALAVI A — 1780.
ALBA D — 1943.
ALBERT R E — 9792.
ALBERTSSON A-C — 409.
ALBRECHT W N — 548.
ALBRECHT-MALLINGER R — 1647.
ALBRIGHT & WILSON — 325P, 1738P, 1832P, 1833P.
ALBU-YARON A — 4477.
ALBUS SA — 2418P.
ALCAN INTERNATIONAL LTD — 3486P, 4421P.
ALCORN W C — 6323.
ALDEN M — 3639.
ALDINGER T I — 3460, 7465.
ALDISSI M — 4007.
ALEKSANDROVA I B — 7707.
ALEKSEEVA O V — 9417.
ALESSI P — 2843.
ALEXANDERSSON R — 2048, 6168.
ALEXANDROU A N — 3630.
ALI I — 6117.
ALI M G — 6682.
ALI MANSOOR S — 6094.
ALI S A — 9063.
ALICH G — 5082.
ALIG I — 6118.

ALKOR GMBH KUNSTSTOFFE — 3819P.
ALLAN J R — 3103.
ALLAN M L — 9401.
ALLCOCK H R — 3308, 4117.
ALLEN A J — 837.
ALLEN C — 1760.
ALLEN C W — 1106.
ALLEN D W — 2714.
ALLEN G — Section 11: 1525. Section 99: 2236, 2237, 3092, 3949, 3950, 4787, 5598.
ALLEN J — 1734.
ALLEN J K — 3922.
ALLEN K W — 2820, 6581, 6887, 7927, 9638.
ALLEN N S — Section 01: 5610. Section 29: 9187. Section 53: 348, 4299. Section 69: 1912, 6888. Section 79: 593, 5399, 8757.
ALLEN T — 3706.
ALLIANCE OF AMERICAN INSURERS — 4788.
ALLIED COLLOIDS LTD — 121P.
ALLIED CORP — 896P, 2136P, 2419P, 2466P, 8004P.
ALLIED-SIGNAL INC — 897P, 1614P, 7321P.
ALLINDER P R — 7601.
ALLMAN F — 4376, 6776.
ALLMER K — 99, 6629.
ALLSOPP D — 1095, 5941.
ALMAN D H — 8561.
ALMEIDA E — 8380.
ALONSO M — 1721.
ALONSO-AMIGO M G — 5668.
ALPEROWICZ-COX N — 9909.
ALPS ELECTRIC CO — 8267P.
ALTENA H J H — 4920.
ALTMAYER F — 1906, 3640, 4478.
ALVAREZ Z E — 6717.
AMASS A J — 3202.
AMCHEM PRODUCTS — 5013P, 5786P, 9370P.
AMERICAN CONF GOVERNMENTAL IND HYGIENISTS — 2942, 7044.
AMERICAN CYANAMID CO — 167P, 168P, 2698P, 4105P.
AMERICAN NATIONAL STANDARDS INSTITUTE — 7211.
AMERICAN SOCIETY FOR TESTING AND MATERIALS — Section 83: 1364. Section 88: 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 8866, 8867, 8868, 8869, 8870, 8871, 8872, 8873, 8874, 8875, 8876, 8877, 8878, 8879, 8880, 8881, 8882, 8883, 8884, 8885, 8886, 8887, 8888, 8889, 8890, 8891, 8892, 8893, 8894, 8895, 8896, 8897, 8898, 8899, 8900, 8901, 8902, 8903, 8904, 8905, 8906, 8907, 8908, 8909, 8910, 8911, 8912, 8913, 8914, 8915, 8916, 8917, 8918, 8919, 8920, 8921, 8922, 8923, 8924, 8925, 8926, 8927, 8928, 8929, 8930, 8931, 8932, 8933, 8934, 8935, 8936, 8937, 8938, 8939.
AMERICAN TELEPHONE & TELEGRAPH CO — 6413P.
AMERON INC — 169P.
AMIS E J — 6865.
AMMERDORFFER J L — 1567, 2895.
AMOCO CORP — Section 06: 7261P. Section 18: 853P, 1571P, 1572P, 2420P, 3244P, 3245P, 9090P. Section 22: 6504P. Section 24: 3320P, 7362P. Section 46: 1715P. Section 52: 5895P.
AMONE M J — 6425.
AMOR M P — 1997.
AMPAD CORP — 9256P.
AN H — 8122.
AN J H — 2317, 2358.
ANAC O — 8074.
ANANTH G — 3707.
ANDERSEN M E — 4603.
ANDERSON C C — 1946.
ANDERSON D G — 5305, 7646.
ANDERSON E — 9910, 9911.
ANDERSON G V — 7563.
ANDERSON H J — 390.
ANDERSON H R — 6889.
ANDERSON J E — 6802.
ANDERSON J L — 5314.
ANDERSON L — 8133.
ANDERSON P W P — 8952.
ANDERSON R A — 9125.
ANDERSON R M — 5293.
ANDERSSON B — 6890, 9652.
ANDERSSON I-M — 5392.
ANDERSSON K — 6890, 7674, 9652.
ANDO H — 5712, 6451.
ANDO M — 3792.
ANDRADE C — 1767, 7516.
ANDRADE M C — 6683.
ANDREENOK V M — 7466.
ANDRES-VERGES M — 1193.
ANDREWS D E — 6197.
ANDREWS J R — 501.
ANDUS CORP — 5886P.
ANGELOVA M A — 2844.
ANGELOVA N — 9750.
ANGHEL D F — 6957.
ANKALAGI R F — 7253.
ANLIKER R — 2049.
ANNEVELDT J — 6958.
ANNIGHOFER F — 985.
ANSELM D — 6973.
ANTAL M J (JR) — 8175.
ANTALIK J — 6963.
ANTHONY G — 1907.
ANTONIETTI M — 88.
ANTONOV A V — 5677.
ANTONY W — 6676.
ANTROPOV L I — 4309.
ANTTI-POIKA M — 7762.
ANWARI F — 8578.
AOKI K — 4096.
AONO H — 7752.
AOSHIMA S — 5678.
AOYAMA T — 92.
APPEL S V — 5404.
APPENROTH S — 5750.
APPLEBY P — 2117.
APPLEMAN B R — 303, 1761, 7518, 9404.
AQUALON CO — 5671P.
ARACIL J — 2276.
ARAH C O — 7699.
ARAI K — 7519, 8751, 8752, 8753.
ARAI S — 918.
ARAI T — 7519, 8751, 8752, 8753.
ARAKAWA KAGAKU KOGYO CO — Section 08: 9029P. Section 10: 1522P. Section 40: 4220P, 5819P. Section 80: 603P, 4647P.
ARAKI S — 7752.
ARAKI T — 44.
ARCA E — 7730.
ARCHER R D — 2486, 6044.
ARCHER W L — 1605, 5638.
ARCHIBALD D D — 3644, 3645.
ARCO CHEMICAL CO — 3246P, 3298P, 9013P.
ARCO CHEMICAL TECHNOLOGY INC — 6457P, 9030P, 9031P, 9257P.
ARDOX PYRENE LTD — 2640P.
ARECHAGA J R — 5898.
ARELLANO M — 4904.
ARENDT W D — 7272.
ARIAS E — 3502, 9450.
ARICHI S — 7700.
ARITA Y — 9539.
ARIZONA BOARD OF REGENTS — 9091P.
ARIZONA CHEMICAL CO — 4034P.
ARLAUD P — 3229, 4916.
ARMA BR CHEM REAG — 7262P.
ARMANINI L — 1455.
ARMAS R A — 4322.
ARMITAGE P D — 1556.
ARMONAS J E — 1903, 1952.
ARMSTRONG D W — 1914.
ARMSTRONG R C — 1888.
ARMSTRONG WORLD INDUSTRIES — 1138P, 2771P, 9579P.
ARNALDOS J — 8656.
ARNEY M — 546.
ARNING E — 8383.
ARNOLD C A — 8653.
ARNOLD F E — 2463.

ARNOLD H S — 5345, 5400.
ARNOLD J — 7470.
ARNOLD J E — 5284.
ARNOLD J R — 2569.
ARNOLD P — 5854.
ARNOLDUS R — 2534.
ARNVIDARSON B — 7785.
ARONOVICH D A — 9088.
ARORA K K — 1354.
ARPAIA M — 6686.
ARRANZ F — 6964.
ARSHADY R — 814.
ARTHUR J C — 4142.
ARTHUR R A J — 8725.
ARUP RESEARCH AND DEVELOPMENT — 9405.
ARVIDSSON T — 5358.
ARZUR B — 2330.
ASAGAMI C — 9785.
ASAHI CHEMICAL INDUSTRY CO — Section 18: 854P. Section 22: 2467P, 2468P, 4961P, 7344P, 9135P. Section 30: 934P. Section 36: 3349P. Section 44: 8300P, 8301P. Section 62: 1838P, 4403P, 6794P, 7594P, 8489P, 9547P, 9548P. Section 64: 1139P, 2772P. Section 80: 604P, 5458P, 7081P, 7082P, 7811P, 9849P.
ASAHI CIBA CO — 6617P.
ASAHI DENKA KOGYO CO — 9P, 2699P, 4092P, 7590P.
ASAHI DOW CO — 1839P.
ASAHI GLASS CO — Section 18: 6458P, 6459P. Section 20: 1600P, 2438P, 8120P. Section 34: 210P, 4155P. Section 36: 4175P. Section 40: 2574P, 2575P. Section 44: 8302P. Section 46: 5846P. Section 54: 1785P, 8428P, 9480P. Section 58: 5185P, 7586P. Section 62: 1840P. Section 64: 1858P, 5225P, 5994P, 9580P, 9581P. Section 66: 9636P. Section 80: 7083P, 9850P.
ASAHI KASEI METALS — 2266P.
ASAHI KATANTESU CO — 9481P, 9482P, 9483P.
ASAHI PEN CO — 455P.
ASAKURA T — 6991.
ASAMI R — 4028.
ASAMOTO B — 6046.
ASANO K G — 2876.
ASARI M — 351, 388.
ASFARI Z — 6400.
ASHCROFT S — 3050.
ASHLAND OIL INC — Section 18: 122P, 855P, 1573P, 1574P, 2421P, 3247P, 3248P, 4062P, 6460P, 9092P. Section 22: 898P, 899P, 1615P, 2469P, 4106P, 4107P, 4962P, 5752P, 6505P. Section 24: 4975P. Section 34: 1653P. Section 40: 1694P, 2576P, 5820P.
ASHRAF-KHORASSANI M — 4479.
ASKEW W C — 3646.
ASLANYAN A S — 5713.
ASLIN D C — 4377, 6779.
ASPLER J S — 2589.
ASSMANN W — 9730.
ASSOCIATION FRANCAISE DE NORMALISATION — Section 88: 721, 722, 2228, 2229, 2230, 3934, 3935, 3936, 3937, 3938, 3939, 4771, 4772, 4773, 4774, 6336, 6337, 7922, 9991.
ASSOCIATION OF SUPPLIERS TO THE FURNITURE INDUSTRY LTD — 7928.
ASSOCIATION STRUCTURAL FIRE PROTECTION CONTRACTORS AND MANUFACTURERS LTD — 4789.
ASTLE P — 986.
ASTORI A — 5899.
ATAMANCZUK B — 8399.
ATARASHI M — 5839.
ATHEY R D (JR) — Section 35: 6546. Section 71: 2904, 3710, 6120, 7701, 9731. Section 85: 4735, 5570, 5571, 9964.
ATKINS E D T — 1908.
ATOCHEM — 3196P, 4201P, 5034P.
ATOM CHEMICAL PAINT CO — 4422P, 7373P, 9221P.
ATSUGI CHUO KENKYUSHO — 8766P.
ATTARWALA S — 5401.
ATTEWELL R — 7769.
ATTEWELL R G — 2091.
AUBIN M — 2005.
AUGER C J — 8012.
AUSIMONT SPA — 123P, 124P, 283P, 4948P, 4963P.
AUST S D — 5948.
AUSTIN L G — 1024.
AUTOTYPE INTERNATIONAL LTD — 7084P.
AUZANO J M — 9660.
AVAR L — 1504, 1505.
AVARIA L — 2983.
AVERY INTERNATIONAL CORP — 6585P, 8767P.
AVNIR D — 9735.
AVRAMIDIS S — 5942.
AVRANAS A — 2905.
AWASTHI A K — 2286.
AWE J — 1610.
AZAB M M — 8161.
AZERBAIDZHANSKII ACADEMY OF SCIENCE INORG CHEM PHYS — 5622P.

B

BABA R — 6377.
BABICH E — 1285.
BABIS J S — 9656.
BABOIAN R — 3472.
BABRAUSKAS V — 4568.
BACALOGLU R — 3219, 3220.
BACK I — 5900, 5901.
BACON M — 7301.
BADRAN A S — 836.
BAERT L — 3756.
BAFFORD R A — 3366.
BAGASSI M — 4457.
BAGCHI D — 2192, 2510.
BAGDA E — 1237, 2906, 3567, 6965.
BAGRII V A — 4263, 7520.
BAGRIJ V A — 6722.
BAILEY C L — 45.
BAILEY S — 2714.
BAILEY W H — 3433.
BAILEY W J — Section 11: 2318, 2319, 6425. Section 17: 1562, 4035, 5716.
BAILLIE G M — 3103.
BAIN C D — 1247.
BAIRD J A — 8501.
BAKER E A — 8384.
BAKER E L — 575, 3779, 7010.
BAKER J A — 7702.
BAKER L E — 7782.
BAKER R — 5261.
BAKER R W — 8726.
BAKHSHAEE M — 594.
BAKKER R F M — 7521, 7543.
BAKSAY M — 9126.
BALAKRISHNAN K — 6647, 6710, 6728.
BALARD H — 523.
BALASHIKH CHEM TEST — 8303P.
BALASUBRAMANIAN K — 1637.
BALCAN M — 6957.
BALCAR H — 7994.
BALIK C M — 3760, 4326, 9723.
BALKE S T — 1909, 9657.
BALKWILL P H — 3481.
BALL R — 6123.
BALLANCE J A — 2661.
BALLANTINE D S (JR) — 3693.
BALLANTYNE B — 2052.
BALLARD D G H — 4036.
BALLARD J — 9761.
BALLISTRERI A — 1829.
BALOCH M K — 1182.
BALOGA M — 2715.
BAMFORD C H — 2320, 2321, 5673.
BAN H — 6208.
BANCROFT K C C — 5279.
BANDERMANN F — 4008.
BANERJEE P — 5076.
BANKS D E — 6171.
BANKS L — 8429P.
BANKS W B — 3647.
BANNISTER W W — 8706, 8707.
BANOV A — Section 33: 4995. Section 35: 5005, 5006. Section 49: 8337. Section 82: 3043, 3044, 3045.
BANSAL R C — 3957.
BANSAL R K — 5693.

BAOJUN Q — 1063.
BARAAM Z — 5734.
BARABANOV V P — 6547.
BARAJAS R — 352, 360.
BARANOV V G — 7703.
BARARY M — 6951.
BARASHKOV S S — 7471.
BARAZANI G — 3737.
BARBER D W — 7806.
BARBILLAT J — 8617.
BARBOIU V — 3549, 5308.
BARD A J — 1238, 4480.
BARDAL E — 1782.
BARFORD W — 6123.
BARHAM P J — 8579.
BARKER A D — 8613.
BARKER S L — 1722.
BARLOW C Y — 9658.
BARNETT W — 2653, 2654.
BARNFIELD J — 3547.
BARNHART R — 1725.
BARR & CO — 5896P.
BARRE M — 10P.
BARRETT J H — 7074.
BARRETT R MCD — 1606.
BARRIE J — 5040.
BARRIE J A — 2452, 6121, 7340.
BARRIO GOMEZ A — 5007.
BARRY I — 4378.
BARSON C A — 2322, 3221, 5694, 8058, 9074.
BARTEL C — Section 01: 7948. Section 81: 4675. Section 82: 7146. Section 83: 4699. Section 84: 691, 4730, 4731, 7182.
BARTELS S A — 6853.
BARTELS T — 2440.
BARTH H G — 1910, 7704.
BARTKNECHT W — 2053.
BARTLE K D — 3648, 7651.
BARTOLI A — 6789.
BARTON J — 3281, 6441, 6442.
BARTON K — 4310.
BARTOSZ G — 2107.
BASCOM W D — 5306.
BASDEN A — 2216.
BASEL A — 7949.
BASENER N — 3649.
BASF AG — Section 02: 11P, 12P, 13P, 770P, 1465P, 2267P, 4822P, 6379P. Section 06: 6401P, 8005P, 8006P. Section 08: 800P, 801P, 802P, 803P, 3148P, 6414P. Section 18: 1575P, 2422P, 4063P. Section 22: 170P. Section 32: 1651P. Section 34: 3341P. Section 36: 1661P, 4176P, 6551P, 6552P, 6553P, 9222P. Section 44: 5066P. Section 50: 326P. Section 80: 2137P, 2138P, 5459P, 7085P.
BASF CORP — Section 02: 3965P, 8976P. Section 18: 5722P. Section 22: 1616P, 9136P. Section 24: 4128P. Section 32: 4150P, 9198P. Section 36: 225P, 4177P, 4178P, 4179P, 6554P. Section 40: 5821P. Section 42: 273P.
BASF LACKE & FARBEN AG — Section 02: 8977P. Section 06: 6402P. Section 08: 3149P, 6415P. Section 18: 125P, 856P, 1576P, 4923P, 9093P. Section 22: 1617P. Section 34: 211P, 3342P, 4156P. Section 36: 226P, 227P, 228P, 229P, 1662P, 4180P, 5787P, 6555P, 6556P, 6557P, 6558P, 6559P, 6560P, 6561P, 8208P, 9223P. Section 50: 2641P. Section 64: 2773P, 4423P, 6814P.
BASKARAN A — 6615.
BASOV V N — 9680.
BASSETT D C — 1911.
BASSETT E — 7399.
BASSIM M N — 4301.
BASSLER B J — 6892.
BAST A — 4572.
BASTIDAS J M — 352, 360, 7491.
BASYOUNI W M — 1807.
BASZKIEWICZ J — 5143, 5144.
BATAILLE P — 3222.
BATE N — 3001.
BATES C R — 2513, 9428.
BATKINA P A — 8151.
BATTAGLIA C R — 6815P.
BATTELLE MEMORIAL INSTITUTE — 2774P, 9582P.
BATTEN R J — 6209.
BATTERSBURY N S — 417.
BATTERSBY G C — 8831.
BATZAR K — 8580.
BAUER A — 2821.
BAUER C L — 3729, 5307.
BAUER D R — 204, 411.
BAUER P — 5917.
BAUER R S — 113, 3095.
BAUEREISS U — 937.
BAUMANN H — 4037.
BAUMGART D — 1456.
BAUMGARTEN H — 5085.
BAXTER J E — 1286, 1287, 2984, 3793.
BAXTER P J — 8733.
BAYCHEM INTERNATIONAL INC — 8268P, 9258P.
BAYER AG — Section 02: 14P, 2268P, 3966P, 4823P, 4824P, 6380P, 6381P, 6382P. Section 06: 1493P, 4859P. Section 08: 61P, 62P, 1510P. Section 12: 1542P, 1543P. Section 14: 1549P. Section 18: 857P, 4924P, 6461P, 7322P, 8099P. Section 22: 171P, 172P, 1618P, 1619P, 2470P, 2471P, 2472P, 2473P, 3299P, 4108P, 6506P, 8138P, 9137P. Section 24: 1639P. Section 34: 3343P, 4157P, 6539P, 9203P. Section 36: 230P, 231P, 950P. Section 50: 8355P. Section 54: 6742P, 8430P. Section 58: 5186P. Section 60: 8483P. Section 64: 4424P, 5226P. Section 80: 3820P.
BAYER ANTWERPEN NV — 15P.
BAYER G — 9659.
BAYLISS D A — 7923.
BAYMAN M — 7929.
BAYSAL B M — 3160.
BEALL F C — 4533.
BEAN J E — 3093, 6313.
BEARDOW N J H — 6278.
BEASLEY J K — 2323.
BEATI E — 5731.
BEATTY C L — 2416, 6456.
BEAUFORD W — 9358.
BEAVERS E M — 5978P.
BEAVERS J A — 1068.
BECCARIA G D — 2054.
BECK F — 2549, 5738.
BECK U — 4392.
BECK W — 2280.
BECKER C E — 4569.
BECKER C H — 6937.
BECKER H — 1969, 6072.
BECKER P — 6314.
BECOURT A — 6279.
BEDDARD G S — 1912.
BEDDING N D — 3650, 3651.
BEDNAREK M — 9075.
BEECH J C — 8171.
BEELS G — 6262.
BEERING M M — 3603.
BEGLEY R — 4855.
BEGOVICH J M — 528.
BEHARI K — 1557, 3221.
BEHR INDUSTRIEANLAGEN GMBH — 3450P.
BEHRENS R A — 2655.
BEINBORN S — 6443.
BEINERT G — 2324.
BELARRA M A — 9660.
BELDIE C — 5308.
BELENKLL B G — 6929.
BELIN L — 8719.
BELINA K — 9126.
BELIS H — 7183.
BELKE R E — 2006.
BELL C — 7847.
BELL D — 494.
BELL J P — 5650, 6039, 6416P.
BELLAR T A — 1913.
BELLENGER V — 3629, 3652, 3711, 7705.
BELOGOLEVSKI A D — 4458.
BELOPUKHOV S L — 7652.
BELORUSSKII ACADEMY OF SCIENCE GEN. INORG. CHEM — 3114P.
BELORUSSKII ACADEMY OF SCIENCE MACH RELIAB — 9371P.

BELORUSSKII ACADEMY OF SCIENCE METAL POLYM — 3487P.
BELORUSSKII LENIN UNIVERSITY — 7263P.
BELORUSSKII SANIT HYGINE — 8649P.
BELOVA S B — 7483.
BELYAKOVA L D — 4534.
BENBOW J — 5611.
BENCKISER-KNAPSACK GMBH — 3150P.
BENDER S — 3434.
BENEDICT R L — 7522.
BENGOUGH W I — 7068.
BENITEZ J C — 4356.
BENNETT B — 5098.
BENNINGHOVEN A — 4270, 6085.
BENOIT H C — 6122.
BENSON R S — 1887.
BENT B E — 5278.
BENTLEY D J (JR) — 2220.
BENTLEY J — 1722.
BENTZ D P — 2879.
BENYAICH A — 4883.
BENYI G — 2907.
BEQUER C — 9681.
BERBERI A E — 7706.
BERCHTEN A R — 2607.
BERDINA L KH — 5382.
BERDUTIN A YA — 9009.
BEREJKA A J — 5446.
BERENS A R — 8654.
BERESTNEV V A — 3210.
BERETTA M — 3923.
BERETTA S — 1726.
BEREZA M P — 8605.
BERG J C — 3993, 7702.
BERGBREITER D E — 5660.
BERGER P D — 8016.
BERGER W F — 7472.
BERGH J S — 8581.
BERGIN F J — 6047, 6048.
BERGK B — 5194.
BERGMAN A — 7988.
BERGMANN J — 3712.
BERHARDSSON S — 6706.
BERLIN A — 9762.
BERLUCHE E — 89.
BERNARD B P — 4569.
BERNARD F — 4630.
BERNER G — 3997.
BERNHARDSSON S — 6709.
BERNHARDT C — 536.
BERNIE J A — 3794.
BERNIUS M T — 4509.
BERNS R S — 3603, 3614, 8561.
BERODE M — 1944, 4570, 9769.
BERRIDGE J C — 2903.
BERRY G C — 2011, 3739.
BERRY I G — 3213.
BERTALI A — 3568.
BERTELLI G — 8614.
BERTHOD A — 1914.
BERTI L — 9992.
BERTI M G — 9970.
BERTINELLI F — 182.
BERTOCCI U — 9406.
BERTRAN M — 6489.
BESANCON P — 3713.
BESCHLE M — 5807.
BESENBACHER F — 9661.
BESKHLEBNYI V A — 4458.
BESPALOV N I — 7707.
BEST D J — 3525.
BEST M E — 9662.
BETOMAX KUNSTSTOFF & METALLWARENFABRIK GMBH — 4425P.
BETT S J — 8754.
BETTERIDGE D — 1194.
BETZ LABORATORIES INC — 4064P.
BEUTHIN L — 5881.
BEVINGTON J C — Section 11: 2325. Section 13: 8058. Section 17: 1557, 3221, 5694, 9074. Section 69: 3653. Section 99: 2236, 2237, 3092, 3949, 3950, 4787, 5598.
BEWERSDORFF H-W — 3616.
BEYER O — 9047.
BEYER U — 5086.
BEZGUZIKOVA I A — 1677.
BHAGAT S D — 6893.
BHAR G N — 5861.
BHATTACHARJEE H R — 5804.
BHATTACHARYA S D — 5264.
BHATTACHARYA T — 7338.
BHATTACHARYYA K G — 748.
BHUMKAR C J — 1648.
BHUYAN K — 4038.
BIAGINI R E — 9763.
BIALOPIOTROWICZ T — 4549, 8673.
BIALOSTOCKA H — 9341, 9342, 9343.
BIANCHI N — 6996.
BIANCHINI R J — 1092.
BIANCONI P A — 7357.
BICCHI C — 6049.
BICKFORD R H (JR) — 5402.
BIDAN G — 9048.
BIDDLE D — 5280.
BIEBUYCK J J — 8042.
BIEGANSKA B — 353, 1727, 2250.
BIEGLER L T — 1720.
BIELEMAN J H — 52, 3145, 9022.
BIELKOVE M — 4264.
BIESENBERGER J A — 6859.
BIGGS W R — 4481.
BIGHI C — 2869.
BIGNELL D M — 9192.
BIGOGNO A — 439.
BILAN R A — 8708.
BILCZUK A — 4468.
BILIBIN A YU — 8097.
BILLINGHAM N C — 2326, 7273, 9732.
BILLMEYER F W (JR) — 482, 483, 2805, 3604.
BILOTTA R — 5862.
BINANT C — 9663.
BINDING D M — 9640.
BINDSCHAEDLER C — 4535, 9059P.
BINE J P — 7400.
BIRCHENOUGH D — 7523.
BIRD M F — 2688, 9407.
BIRD R B — 1888.
BIRD W E — 2879.
BIRK F — 2996.
BIRKIN M — 8953.
BIRO F — 9126.
BISARYA S C — 117.
BISCHOF C — 2821, 5332.
BISCHOFF R — 5868.
BISHOP T E — 5333.
BISHOPP J A — 2822, 5863.
BISKUP U — 2441.
BITSANIS I — 8582.
BITTERLIN A — 6050.
BITTNER A — 354, 749.
BIZZARRI P C — 182.
BJERGA J M — 6894.
BJERKEMO N — 2088.
BJORNBERG T — 5864.
BJORS U — 7677.
BJURSTROM R — 2977.
BLAAKMEER J — 8066.
BLACKFORD R W — 6804.
BLACKLEY D C — 8067.
BLACKWELL K T — 484.
BLAGA A — 6444.
BLAGO RAZMILIC B — 6895.
BLAIR A — 2959.
BLAIR H S — 2313.
BLAKE D E — 5087.
BLANC R H — 1889.
BLANEY B L — 7797.
BLANK W J — 161, 2442.
BLANKENBURGS G — 5161.
BLAU B — 1201.
BLAZEJ A — 3146.
BLEAKLEY G — 9329.
BLEASE T G — 3714.

BLEDZKI A K — 7524.
BLEN E V — 7383.
BLESA M A — 4811.
BLEVINS R W — 4644.
BLICKENSDERFER R — 2823.
BLOCK P M — 696.
BLOM B E — 4225.
BLOODGOOD D — 2716.
BLOOR D — 2007, 3203.
BLOSSEY E C — 4009.
BLOUNT D H — 858P, 2746P, 4129P.
BLOUNT W W — 2385.
BLUESTEIN C — 5403.
BLUM F D — 3758, 6966, 9716.
BLUM H — 218, 5779.
BLUNT M — 6123.
BOBBITT D R — 6905.
BOBROVA M K — 4298.
BOCCHI G J — 3029, 6263.
BOCCONE A A — 6280.
BOCHAN A J — 6735.
BOCK G — 2264.
BOCKING V — 491.
BOCKMAIR G — 6028.
BOCQUET M — 3629.
BODE M — 6264.
BODMER A — 9904.
BODNAR E — 7147.
BOEGLI W J — 5389.
BOEHLER R A — 9408.
BOEHME C — 264.
BOERIO F J — 6407.
BOEWER C — 2946.
BOEY K W — 4571.
BOGACHEVA E I — 6954.
BOGAERT M G — 573.
BOGAERTS W F — 5576.
BOGDANOV D I — 3461.
BOGDANOV I SH — 6533.
BOHLANDER G S — 8447.
BOHM-KASPER K-H — 1762.
BOHME I — 4199.
BOHME KG CHEM FABRIK GMBH — 6417P.
BOHME W — 6896.
BOHMER V — 3235.
BOHNI H — 7527.
BOHNKE H — 1504, 1505, 6408, 8013.
BOILEAU S — 2383.
BOILLAT M A — 4570.
BOITEUX G — 4097.
BOKSZCHANIN W — 3335.
BOLDYREVA T N — 3210.
BOLEIJ J S M — 7581.
BOLIS V — 9733.
BOLOGNESI A — 3204.
BOLOTIN B M — 3955.
BOLVARI A E — 1915.
BOLZI G — 6637.
BOMBIEN F — 5560.
BOMO F — 3329.
BOND A M — 7655.
BONHAM R W — 7653.
BONIKOWSKY L — Section 37: 3358. Section 39: 3367. Section 49: 1032, 5088, 5089, 7473. Section 81: 3868. Section 87: 7195.
BONORA P L — 1033.
BOOCOCK S — 9664.
BOOMGAARD R — 1902.
BOORMAN G A — 4587.
BOOTH C — 1916.
BOOTS H M J — 3161.
BORBELY J — 5456.
BORCHERT A E — 6440.
BORCHOL S — 5320.
BORDELAU R — 5317.
BORDEN INC — 6586P, 8490P.
BORDZILOWSKI J — 7552, 9409.
BORGARD B — 8615, 9410.
BORGERDING M F — 2845.
BORGSTEDT H H — 550.
BORISOV G — 436.
BORISOV J S — 8230.
BORISOVA A L — 8230.
BORISOVA L A — 7776.
BORM P J A — 4572.
BORRAJO J — 77.
BORST D V — 1355, 3030.
BOSE A — 3749.
BOSSERMAN W — 2967.
BOSSIS G — 2833, 3617, 3628.
BOSTAN S — 3818.
BOSWELL A — 3654.
BOTHAM P A — 2055.
BOTHE H — 2443.
BOTT S — 6897.
BOTT S E — 3715.
BOUCHAL K — 6870.
BOUCHER P — 9711.
BOULDIN M — 2824.
BOULET L P — 6172.
BOURASSA H — 3222.
BOURNE J R — 8323, 8324.
BOUSSOUIRA B — 6051.
BOUTEN P — 5309.
BOUTEVIN B — 2327, 5761, 5762.
BOUTONNAT M — 3655.
BOUZON J — 3724, 6864.
BOVE F J — 7010.
BOVEY F A — 1917, 1976.
BOW K E — 9411.
BOWDEN C — 9242.
BOWDEN C C — 6244.
BOWDEN P G — 9806.
BOWDITCH M R — 5041.
BOWEN H K — 763.
BOWLEY H J — 3103.
BOWMER T — 9511.
BOWMER T N — 4235.
BOXALL J — 4812.
BOYACK R — 9076.
BOYCE MANUFACTURING CO — 5094.
BOYER R F — 1257.
BOYNTON R M — 5253, 8570.
BOZZI E G — 100.
BP CHEMICALS — 1620P, 5963P, 8139P.
BRACCO J J — 1763, 7525.
BRACKEN M B — 6179, 6180.
BRADAC M — 1660.
BRADBURY J H — 3205.
BRADLEY J — 6850.
BRADSHAW R L — 4536.
BRADY C — 9905.
BRADY J F — 2833, 3617, 3628.
BRADY R — 1052.
BRADY R F (JR) — 6687, 8505.
BRAGLIA R — 6996.
BRAHM M — 6499.
BRAIG A — 2655, 2656.
BRAINARD D H — 5254.
BRAITHWAITE A — 3656.
BRAMAN R S — 6900.
BRAMBLEY D R — 4633.
BRAMCHEM LTD — 9522P.
BRAME K A — 1024.
BRANCH S — 5279.
BRANDT A — 7552.
BRANDT E S — 6052.
BRANDT K — 6325.
BRANDT L — 567.
BRANDT-RAUF P W — 5346.
BRANN B L — 5095, 5404.
BRATCHIE S — 3479.
BRATTON G J — 3716.
BRATULESCU H — 2535.
BRAUCHLE C — 6608.
BRAUER R — 8321.
BRAUN D — 2368, 2444, 3280.
BRAUN F — 485, 6029.
BRAVERY A F — 412, 1093, 3503, 3506, 6759.
BRAY W H — 8385.
BRAZIER G — 2056.
BREDEN L H — 8655.

BREDENBURG B — 4905.
BREHM P — 6281, 7708, 9290.
BRENNA A — 8606.
BRENNAN J V — 4090.
BRENNENSTUHL H GMBH — 8236P.
BRENNER ASSOCIATES — 9372P.
BRENNI G F — 6265.
BRENT CHEMICALS INTERNATIONAL PLC — 4295P.
BRESLE A — 6173.
BRESLIN W J — 2947.
BRESLOW D S — 9647.
BRETTELL T A — 7654.
BRETTLE J — 5219.
BREUER S W — 5694.
BREWIS D M — 2846, 2973.
BRICAULT M — 2923.
BRICKWOOD R — 5865.
BRIDGE A — 7401.
BRIGGS D — 1918, 1953, 2008, 2847, 3657.
BRIGGS F — 9923.
BRINDLE I D — 1919.
BRINSON H F — 4554.
BRISCOE B J — 2008.
BRISSON A — 5317.
BRITISH ADHESIVES AND SEALANTS ASSOCIATION — 2238.
BRITISH LIBRARY DOCUMENT SUPPLY CENTRE — 729.
BRITISH MATERIALS HANDLING BOARD — 8322.
BRITISH RESIN MANUFACTURERS' ASSOCIATION — 8954.
BRITISH STANDARDS INSTITUTION — Section 83: 7848. Section 88: 723, 724, 3940, 4775, 4776, 5591, 5592, 8940, 8941, 8942, 8943, 8944, 8945, 8946, 9993, 9994. Section 99: 4790.
BRITTAIN W J — 4039, 5695.
BRITTON L G — 2057.
BROAD A — 3958.
BROADHURST T — 5521.
BROCHARD F — 7709.
BROCKINTON L — 690, 3070, 3071, 5561, 5562.
BROCKMANN H — 841, 2390, 2825, 4210.
BROER D — 5309.
BROGGI F — 2128.
BROMLEY C W A — 3338.
BROMS I — 5377.
BRONNIMANN C E — 1195.
BROOK M A — 8152.
BROOK P A — 5572.
BROOK R — 3467.
BROOKE C M — 4118.
BROOKS B W — 8039.
BROOKS D D — 9678.
BROOKS J K — 1255.
BROOKS J M — 3787.
BROOKS J S — 2714.
BROOKS S — 2205.
BROOKS S H — 3658.
BROOKS S M — 4593.
BROSSAS J — 190, 3315.
BROSSE J-C — 1558.
BROVERMAN R P — 7466.
BROWER L — 1920.
BROWN A — 2848.
BROWN A R — 2627.
BROWN D — 6180.
BROWN D B — 3917.
BROWN D E — 1106.
BROWN L M — 7797.
BROWN O — 3462.
BROWN P — 10001.
BROWN R A — 1891, 2009.
BROWN R D — 362.
BROWN R G — 1921.
BROWN S K — 8338.
BROWNER R F — 3692.
BROWNSEY G J — 4459.
BROXTERMAN W E — 3049.
BRUGNONE F — 4573.
BRUHL E M — 2058.
BRUHN P — 560.
BRUMME J — 4119.
BRUNINX E — 4270.
BRUNNER A — 8289.
BRUZE M — 2059.
BRYANT P J — 8339.
BRYDON D L — 7339.
BRYDSON J A — 8955.
BRYTUS V — 207.
BUADZE R O — 9520.
BUBACK M — 8755.
BUBAT A — 2489.
BUBERT H — 9344.
BUCEVSCHI M D — 3618.
BUCHER J R — 2060.
BUCHSBAUM G — 484.
BUCHWALTER S L — 5780.
BUCK C F — 6898.
BUCKMAN LABORATORIES INC — 4365P.
BUCKNALL C B — 4884, 6035.
BUCZEK F L — 9646.
BUDD P M — 1922, 1923.
BUDDE W L — 1913.
BUEHNER R W — 2908.
BUFALO G — 5216.
BUFFET M — 5347.
BUGAI N A — 951P.
BUIJS A J — 5902.
BUILDING RESEARCH ESTABLISHMENT — 7564, 9412, 9947.
BUISK CHEM WKS — 9373P.
BULTMAN J D — 7565.
BUMPUS J A — 5948.
BUNKER R C — 3733.
BUNN A — 502.
BUNNELL M — 1728, 3435.
BURCHARD W — 7748.
BURDEAUX D C — 5681.
BURFORD R P — 9684.
BURGER K — 1612, 6500.
BURGESS P — 7049.
BURGESS R — 3436.
BURGOYNE W F — 2457.
BURILLO G — 8070.
BURKILL J A — 355.
BURLING S — 2206.
BURMEISTER L A — 2299.
BURMENKO A S — 9839.
BURNETT P J — 537.
BURNETT R — 2061.
BURNS C M — 6147.
BURNS D T — 7074, 9672.
BURNS S A — 5255.
BURR C M — 6053.
BURR D — 601.
BURSIK V — 3659.
BURYANENKO V N — 7641.
BUSCALL R — 3619.
BUSCH D H — 46.
BUSCH G — 4885.
BUSCH K W — 6948.
BUSCH M A — 6948.
BUSHMAN D — 5866.
BUSICO V — 3206.
BUSSJAEGER S — 6688.
BUSZEWSKI B — 3223.
BUTCHER J A — 3504.
BUTER R — 8517.
BUTLER A — 2281.
BUTLER A A — 5310.
BUTLER F E — 1924.
BUTLER G B — 3162.
BUTLER G L — 8245.
BUTLER P B — 5310.
BUTLIN R N — 2697.
BUTTERWORTH R — 1129.
BUTTRESS F A — 8956.
BYERLEY T — 7450.
BYERS C H — 528.
BYFORD M — 6124.
BYK-CHEMIE GMBH — 63P, 2610P.
BYRD D M — 6185.

BYRD W E — 2878.
BYRNE R — 7197.
BYSTROV G A — 3781.
BYWATER M — 6316.
BYWATER S — 2328.

C

CABANAS R S — 6719.
CABASSO I — 1931, 2006, 3309.
CABINET OFFICE — 10002.
CABLE R A — 2513.
CABOT CORP — 5623P.
CADIZ V — 6489.
CAIFANT Y — 8729.
CAJON CO — 284P.
CALAFATE B A L — 5696.
CALDERON FERNANDEZ L I — 3765.
CALGON CORP — 5395P.
CALHOUN L L — 8718.
CALLAGHAN M — 2062.
CALLAIS P A — 794.
CALLOW L M — 6861.
CALLOW M E — 3505.
CALVERT P — 3958.
CALVERT P D — 9732.
CALVILLO C P — 5887P.
CAMBERLIN Y — 189, 6427.
CAMERON G G — 1925.
CAMINA M — 2010, 2826.
CAMINATI G — 2909, 2915.
CAMINO G — 2745.
CAMMER P A — 6326.
CAMORANI G — 1656.
CAMPANELLA O H — 7739.
CAMPBELL C — 5978P.
CAMPBELL J — 2123.
CAMPBELL R W — 3310.
CANADIAN FOREST PRODUCTS LTD — 3531P.
CANDAU F — 1249, 3163.
CANDAU S J — 1894.
CANON CO — Section 02: 2269P. Section 42: 274P, 1004P, 5061P, 7432P, 7433P. Section 44: 1013P, 2596P. Section 64: 9583P. Section 80: 605P, 606P, 5460P, 6215P, 7812P, 8768P.
CANOVAN P — 7196.
CANSELL F — 3717.
CANTOW H-J — 6984.
CANTWELL F F — 4511, 4512.
CAO C H — 5903.
CAO G — 2985, 8756.
CAPEK I — 3281, 6432.
CAPLAN G — 8340.
CAPODAGLIO E — 2961.
CAPONE D G — 9669.
CAPRARI J J — 4460, 6639.
CARAMELLA C — 3718.
CARCIELLO N — 322.
CARDENAS D V — 6719.
CARDONA R A — 5348.
CARDOSO J — 9064.
CARDOSO L G C — 4102.
CARDUNER K R — 2849.
CAREL A B — 1196.
CAREY J K — 3506, 7566.
CARHART H W — 8480.
CARIS C H M — 2329, 4813, 4906.
CARL R T — 9717.
CARLETON A — 290.
CARLSHAF A — 4502.
CARLSSON J — 7783.
CARMESIN I — 7710.
CARON G — 7716.
CARP N — 7308.
CARPENTER S E — 2850.
CARPOV A — 8688.
CARR J W — 4495.
CARRA S — 1548, 8063.
CARRE C — 4638.
CARROLL C — 7197.
CARRON K T — 520.
CARROT C — 3620.
CARROTT P J M — 3719.
CARTER C — 2910.
CARTER D E — 8709.
CARTER E V — 750, 3105.
CARTER G C — 5090.
CARTER R J — 7655.
CARTER R O (III) — 503, 1764, 6054.
CARTWRIGHT P — 5349.
CARUSO J A — 6106, 6939.
CASA C D — 182.
CASADEI S — 5195, 6793.
CASADI S — 5972.
CASAL J — 8656.
CASANOVA M — 2063.
CASASSA E F — 2011.
CASCO NOBEL AB — 1116P.
CASELLA M L — 4482.
CASEY A Z — 8246.
CASHEW CO — 3159P.
CASILLAS N — 4904.
CASS G R — 6075, 7055, 7241.
CASSAT R — 6584.
CASSELLA AG — 6383P, 6403P, 6418P.
CASSIDY P E — 4098.
CASSIDY V M — 9345.
CASSIN C — 1526.
CASTANO V M — 9064.
CASTELLS R C — 4482.
CASTIGLIONI C — 551.
CASTILLO J R — 9660.
CASTLE J E — 504, 7474, 7475.
CASTLE M — 5578.
CASTLEMAN B I — 7784.
CATALINA F — 4011, 4870, 6157, 6888, 8757.
CATELLANI M — 3204.
CATERINO R F — 5522.
CATES M E — 6143.
CATHERIN G — 6851, 9827.
CATTON R W — 7476.
CAUCHOIS G — 7711.
CAVAILLE J Y — 3621.
CAVANAGH P R — 9646.
CAVELIER C — 552, 2064.
CAVITT M B — 2392.
CAWTHORNE G A — 2754P.
CEBOLLADA A F — 4091.
CECALA A B — 5350.
CEI G — 5707.
CELANESE CORP — 9094P.
CEMEDINE CO — 5822P.
CENG X-J — 1130.
CENTI G — 7257.
CENTRAL GLASS CO — 886P, 4158P, 4283P, 5771P.
CENTRAL STATISTICAL OFFICE — 2239.
CENTRE D'ETUDE MAT ORG TECHNOLOGIES AVANCEES — 2474P.
CENTRE DE RECHERCHES METALLURGIQUES — 1739P.
CENTRE NATIONAL D'ETUDES SPATIALES — 8520P.
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE — 823P.
CENTURY ADHESIVES CORP — 6587P.
CERDA J — 9330.
CERNO F — 3569.
CERUTTI F — 751.
CHADHA C S — 6245.
CHAIMBERG M — 8123.
CHAKRABARTI N — 1598.
CHAKRABARTI S K — 553, 2948.
CHALKLEY B — 7526.
CHALMERS R — 5974.
CHAMBERLAIN T R — 752.
CHAN M — 5134, 5334.
CHAN M G — 595.
CHAN S Y — 7712.
CHAN S-C — 6210.
CHAN W H — 1926.
CHAN W-C — 2445, 2446.
CHANDRA S V — 7037.
CHANDRA Y — 5264.

CHANDRAMOHAN D — 7578.
CHANDRASEKARAN V — 1769.
CHANDRASEKHAR R — 5405.
CHANG C H — 7069.
CHANG H-M — 8729.
CHANG S S — 5311.
CHANG S-N — 4622, 4623.
CHANG S-Y — 2012, 6967, 9251.
CHANG T-C — 5904.
CHANG Y-S — 6860.
CHAO A-C — 3187.
CHAPEAU W — 8247.
CHAPIN J — 5334.
CHAPMAN T M — 8124.
CHAPOY L L — 5280.
CHAPPELL I — 6055.
CHARBONNEAU M — 2949.
CHARD M O — 8574.
CHARLTON P — 9429.
CHARTERED INSTITUTE OF BUILDING SERVICES ENGINEERS — 7011.
CHASSET R — 2330.
CHATHAM M D — 2963.
CHATTERJEE P C — 4057.
CHATTHA M S — 2849.
CHATURVEDI M C — 4301.
CHAU F T — 9665.
CHAUBEY B B — 2717.
CHAUDHURY M K — 2938, 6163.
CHAUMONT P — 8088.
CHAWLA M K — 6899.
CHAWLA S K — 9413.
CHEAU T-C — 3636.
CHEE K K — 9641.
CHEEVER G D — 5312.
CHELTSOV M V — 8745P.
CHEM INST NIKITINA — 8178P.
CHEMFIL CORP — 4284P, 8356P.
CHEMICAL INDUSTRY RESEARCH INSTITUTE — 7422P.
CHEMINEER LTD — 3414.
CHEN C C — 7077.
CHEN C S — 4907.
CHEN C-T — 4483.
CHEN D — 837.
CHEN D-S — 4908.
CHEN G-F — 4040.
CHEN H H — 4413, 4484.
CHEN H Y — 5978P.
CHEN J — 6689.
CHEN J L — 2065, 2066, 3766.
CHEN K M — 53.
CHEN L-B — 8153.
CHEN S-A — 2445, 2446.
CHEN Y P — 1239.
CHENERY D H — 501.
CHENG H — 3224.
CHENG H N — 3660, 9666.
CHENG N M — 2851.
CHENG R-S — 1927.
CHER M — 6968.
CHERKASHIN M I — 2303.
CHERNENKO V G — 7312.
CHERNOVTSI UNIVERSITY — 1841P.
CHERRIE J — 5579.
CHERRY B W — 9401, 9414.
CHERTOK F — 5740.
CHERVYAKOVA G N — 8118.
CHESNEAU A — 5322.
CHESS P M — 7537.
CHEVAILLIER J P — 3720.
CHEVALIER P — 2515.
CHEVRON RESEARCH CO — 7363P.
CHHABRA R P — 3725.
CHIANG W-Y — 2124, 6210.
CHIANTORE O — 6969.
CHIAPPE A — 6970.
CHIDA T — 5351.
CHIELLINI E — 3164.
CHIEN J C W — 183, 6152, 7080.
CHIESA M J — 4460.
CHILMAN H — 8341.
CHIN C W — 2718.
CHIRIAC A — 5715.
CHISSO CORP — 1682P, 4130P, 4999P, 9204P.
CHISTYAKOV B E — 9908.
CHISUM M E — 1966.
CHITTUR K — 4517.
CHIU W-Y — 8583.
CHIVERS G — 9971.
CHIYODA CHEM ENG CO — 6662P.
CHMIELEWSKI A — 3704.
CHO C G — 3225.
CHO D L — 1765, 1890.
CHOI K-Y — 4899, 5674.
CHOI S-K — 188, 852.
CHOI W-J — 852.
CHOJNOWSKI J — 184.
CHOKSEY A C — 6246.
CHOKSHI K — 7713.
CHONG A K — 1054.
CHONG T F — 3605.
CHORVAT V — 4264.
CHOU L M — 6426.
CHOUDHURY S — 295.
CHRIST U — 2657.
CHRISTENSEN R W — 6971.
CHRISTIAN G D — 7656.
CHRISTIAN S D — 7050.
CHRISTIE R M — 753, 8564.
CHRISTMAS B K — 596, 5406, 5428.
CHRISTMAS C — 6360.
CHROMEY N C — 9780.
CHU B — 1928, 2002, 6114, 6165.
CHU C-H — 5340, 7747.
CHU I C — 8657.
CHU S G — 8584.
CHU X-L — 4537.
CHUGHTAI A R — 4525.
CHUGOKU TORYO CO — Section 54: 1786P, 1787P. Section 56: 1812P, 5952P, 6762P, 8460P. Section 64: 5227P.
CHUIKOVA L F — 7274.
CHUJKOVA L F — 2752.
CHUJO Y — 5735, 7275, 8076, 8658, 8659.
CHUKO KASEI KOGYO CO — 8521P.
CHUM H L — 8038.
CHUMAKOV L V — 8118.
CHUMAKOV S I — 9807.
CHUNG T C — 89.
CHUNG Y — 3317.
CHUO RIKA KOGYO CO — 6216P, 7813P, 9584P.
CHUPRIK V F — 7741.
CHURCH S P — 8616.
CHURG A — 9764.
CHURKINA T D — 3982.
CHYNOWETH E — 6199, 9917.
CIARDELLI F — 1929.
CIBA-GEIGY AG — Section 02: 16P, 17P, 771P, 1466P, 1467P, 4825P, 5624P, 5625P, 5626P, 7243P, 7244P, 7245P, 7964P, 8978P, 8979P. Section 08: 64P, 2309P, 3151P, 8022P, 9032P, 9033P. Section 12: 4890P. Section 18: 126P, 2423P, 4065P, 4066P, 4925P, 8100P, 8101P, 9095P, 9096P. Section 22: 5753P, 6507P, 7345P. Section 34: 5000P. Section 38: 7412P. Section 54: 5932P. Section 80: 2139P, 3821P, 6217P, 6218P, 6219P, 7086P, 7087P, 7088P, 7089P, 7090P, 7091P.
CIBA-GEIGY CORP — 6384P, 9851P.
CIHAK R — 9765.
CIL INC — 7965P.
CIMROVA V — 9171.
CININAS A — 2519.
CIRILIO CARPIO D — 9948.
CIRLA A M — 5352.
CITIZEN WATCH CO — 456P.
CIUGUDEANU M — 7753.
CIUMAGA M — 7503P.
CIURCZAK E W — 6056.
CLAEYS A — 2900.
CLAGETT D C — 3226.
CLANCY F P — 3437.
CLANCY R — 5399.
CLARE C — 9766.

CLARK G D — 7656.
CLARK W M — 9346.
CLARKE G — 1.
CLARKE J — 2590.
CLARKE J B — 5805.
CLARKE J H R — 5341.
CLARKE K — 7515.
CLARKE N — 9358.
CLARKE P D — 3137.
CLARKE R — 7930.
CLARKE S — 3691.
CLARKSON T W — 5599.
CLARSON S J — 7720.
CLASS G — 691.
CLASS J E — 799.
CLAYTON D W N — 2013.
CLEEVE P — 7197.
CLEGG D W — 4791.
CLELAND A — 9545, 9667.
CLEMENS R J — 2384, 4996.
CLEMENT D H — 2217, 7908.
CLEMENT K A — 3463.
CLIFFE D — 3464.
CLIFT R — 3721.
CLOKE G — 3958.
CLOROX CO — 7390P.
CLOUET G — 190, 3315, 8088.
CLOUGH R L — 838.
CLOUGH S B — 3317.
CLUBB C N — 3368.
COATES M — 2067.
COATES R — 8014.
COATINGS FOR INDUSTRY INC — 4329P.
COBB G P — 6900.
COBET A B — 7573.
COCHIN A — 6315.
COCKBURN E S — 2986.
COCO C E — 4003, 4393.
COCUZZI D A — 5985.
CODY C A — 2829.
COGENT LTD — 8522P.
COHEN B-S M — 6901.
COHEN D S — 6126.
COHEN G — 5734.
COHEN G M — 4041.
COHEN J B — 5255.
COHEN J M — 504, 7657.
COHEN L B — 2297.
COHEN M S — 5403.
COHEN R D — 2615.
COHEN Y — 8123.
COKE J R — 9415.
COLBY R H — 8598.
COLCLOUGH R O — 1916.
COLE P N — 569, 6175.
COLEMAN M M — 6125.
COLLETT O — 9509.
COLLI A — 6852.
COLLIER H L — 3288.
COLLINGWOOD K W — 6174.
COLLINS G B — 6902.
COLLINS J J — 4574, 7012.
COLLINS M H — 2022.
COLLINS R — 304.
COLLYER A A — 4791.
COLOMBO L — Section 01: 754, 755, 5612, 6368, 7950. Section 31: 935, 4988. Section 49: 5091, 9347.
COLON H — 6588P.
COLON I — 2540.
COLORES HISPANIA SA — 7966P.
COLOSI-ESCA D — 5372.
COLOUR QUEST INC — 9313P, 9314P.
COLTHUP N B — 2893.
COLUMBIAN CHEMICALS CO — 4826P.
COMITE EUROPEEN DE NORMALISATION — 7212, 7213.
COMMISSION OF THE EUROPEAN COMMUNITIES — Section 75: 4613. Section 83: 663. Section 87: 1383, 1384, 2221, 2222, 3077, 3078, 3924, 4739, 4740, 4741, 4742, 4743, 5580, 6327, 6328, 6329, 6330, 7198, 8850, 8851, 8852, 8853. Section 99: 4792.
COMMISSIONE UNICHIM PRODOTTI VERNICIANTI — Section 88: 1437, 1438, 1439, 5593, 5594, 5595, 6338, 6339, 6340, 6341, 7214, 7215, 9995, 9996.
COMMONWEALTH SCIENTIFIC & INDUSTRIAL RESEARCH ORG — 3985P.
COMPAGNIE FRANCAISE DE PRODUITS INDUSTRIELS — 8357P.
COMPERE C — 1053.
COMPUTER RESOURCES INTERNATIONAL A/S — 730.
COMTE F — 3722.
COMYN J — 2846.
CONCRETE PROTECTION SYSTEMS INC — 457P.
CONDE M — 6157.
CONDIE L W — 4595.
CONDON J B — 9736.
CONFEDERATION OF BRITISH INDUSTRY — 1449, 6364, 6365.
CONGALIDIS J P — 1547, 8061.
CONLON D A — 5697.
CONNOR S — 7013.
CONNORS K A — 4538.
CONS PRODUCTS RES INST — 9224P.
CONSEIL RECHERCHE ETUDE ENGINEERING — 9585P.
CONSUMERS ASSOCIATION — 1268, 2536, 4302, 6805.
CONTE U — 3718.
CONTRACTOR H L — 1895.
CONWAY H D — 495.
COOK PAINT & VARNISH INC — 5652P.
COOKSON LAMINOX LTD — 7967P.
COOLBAUGH D D — 5746.
COOLBAUGH T S — 9252.
COOMBER M — 6806.
COOMBES P — 5523, 6316, 6317, 7901.
COOPE B M — 5613.
COOPER A A — 4539.
COOPER A W — 8154.
COOPER D W — 3723.
COOPER E A — 6057.
COOPER E J — 2908.
COOPER J R — 9668.
COOPER R — 2025.
COOPER T C — 9767.
COOPES I H — 9169.
COORAY B — 1607.
COOTE A T — 2692, 2697.
COPINS PEEREBOOM-STEGEMAN J H J — 9776.
COPPA-ZUCCARI G — 3438.
COQUERET X — 185, 5420.
CORBELLA J — 6187.
CORBETT W D — 6735.
CORDES H — 4265.
CORDIER S — 2068.
CORDIS G A — 4485.
CORDOLA E — 1506.
CORK C P — 3743.
CORLESS D — 756, 8386.
CORNELL R M — 4486.
CORNING GLASS WORKS — 4285P.
CORNWELL L R — 5908.
COROD LTD — 2735P.
CORRADINI P — 3206.
CORROSION ENGINEERING ASSOCIATION — 5092.
CORSET J — 8617.
CORTES H J — 7658.
COSLER D J — 6197.
COSTA G — 3207.
COSTA L — 2745.
COSTELLO B A DE L — 4540.
COSTES B — 4909.
COTE P L — 8732.
COTIGA M — 7753.
COUARRAZE G — 1893.
COULDRAKE G M — 9972.
COULMAN G A — 7451.
COULSON K — 8387.
COULSON K E W — 8231.
COUNCIL OF THE EUROPEAN COMMUNITIES — Section 87: 1385, 1386, 1387, 1388, 5581, 6331, 7199, 8854, 8855, 8856, 9973.

COURVAL G J — 1054.
COUSINS D R — 2852.
COUTINHO F M B — 3282.
COVELLI A — 5350.
COWAN B — 1930.
COWAN M P — 3734, 3735.
COWE I A — 8618.
COWHERD C (JR) — 5313, 5353.
COWIE J M G — 2331, 2369, 3165, 3198, 3807.
COWLEY A C D — 795, 8015.
COWLEY M — 9348.
COX A — 3665.
COX G — 7659.
COX R M (JR) — 2761.
COX R N — 2693.
COX R W — 6126.
COYNE L B — 7673.
COZZI G — 582, 2118, 4614, 7200.
CPS KEMI APS — 343P.
CRABTREE T A — 5407, 9828.
CRACKNELL G — 5152.
CRAFT R W — 2806.
CRAMER E — 789.
CRANSTOUN G K L — 4486.
CREASER C S — 1197.
CREATIONS EDITIONS PRODUCTIONS PUBLICITARIES — 5600.
CREATIVE ASSETS & CONSULTING CORP — 8140P.
CREED J — 6106.
CREMER M — 2911, 4814.
CREMERS J — 2694.
CRHA B — 4255.
CRIENS R M — 6644.
CRIPPA G — 6638.
CRIVELLO J V — 601, 5697.
CROCKFORD G — 7220.
CROMPTON G — 6785P.
CROMPTON T R — 8957.
CRONER PUBLICATIONS LTD — 646, 1332, 1333, 5601.
CROSBY D G — 8388.
CROSSAN D — 5401, 5448.
CROSSLAND B — 3661.
CROUCH A G — 374.
CROUCH S R — 6930.
CROUCHER M D — 8291.
CROUSIER J — 2719.
CROWN DECORATIVE PRODUCTS LTD — 5995P.
CROWSON A — 6079.
CROWTHER M W — 1931.
CROXTON C A — 8619.
CRUZ S — 356.
CUADRADO T R — 77, 8077.
CUBICCIOTTI D — 9416.
CUCCI G — 6677.
CUCINELLA A — 6638.
CUDBY M E A — 519.
CULP J D — 3439.
CUMBERLAND W G — 9768, 9769.
CUMMING F — 7063.
CUNDALL R — 3795.
CUNNINGHAM J — 6602.
CURRY B — 6807.
CURTIS G — 8727.
CURTIS G C — 9374P.
CURTISS C F — 1888.
CUSTOM FRAGRANCES LTD — 4181P.
CUTHBERTSON D C — 8618.
CUTHRIE W G — 3510.
CUTRONE L — 2658.
CUZIC J E — 9006.
CVETKOV P — 4852.
CWALINA B — 5138.
CZARNIK A W — 7989, 8126.
CZERWINSKI R W — 266, 1691.
CZERWINSKI W K — 2368.
CZIESIELSKI E — 4246.
CZIRAKI A — 8646.

D

D'ALKAINE C V — 6972.
D'AURIA G — 5698.
D'ELIA C F — 9669.
D'HAESE F — 4100.
D'YAKONOVA O S — 7833.
DA COSTA R A — 9349.
DABBAGH G — 3815.
DACHRE K-H — 6067.
DAGERUS E — 3731.
DAHAR W S — 554.
DAHLQUIST C A — 3622, 8585.
DAHM W — 3782.
DAHMANE H — 5806.
DAHMER M L — 6902.
DAHMS G — 219.
DAI-HATSU MOTOR CO — 5933P.
DAI-ICHI KOGYO SEIYAKU CO — Section 08: 65P, 804P, 805P, 1511P, 2310P, 9034P, 9035P, 9036P, 9037P, 9038P, 9039P. Section 18: 859P. Section 22: 7346P. Section 34: 4159P, 5772P. Section 36: 3350P. Section 54: 4330P. Section 56: 5953P, 5954P, 6763P. Section 64: 1859P.
DAI-NICHI NIPPON CABLES — 1301P, 5228P.
DAI-NICHISEIKA COLOUR & CHEMICALS MANUFACTURING CO — Section 02: 18P, 19P, 1468P, 3115P, 3967P, 3968P, 4827P, 7246P. Section 08: 1512P. Section 22: 4109P. Section 36: 952P. Section 42: 8292P. Section 44: 2597P, 2598P, 8304P. Section 58: 9532P. Section 62: 3556P. Section 64: 9586P. Section 80: 6220P.
DAI-NIPPON INK & CHEMICALS INC — Section 02: 772P, 773P, 1469P, 1470P, 2270P, 3116P. Section 08: 1513P, 7285P. Section 12: 3197P, 4891P, 5672P. Section 16: 5688P, 5689P. Section 18: 860P, 3249P, 3250P, 3251P, 4067P. Section 20: 1601P. Section 22: 173P, 7347P. Section 24: 9175P. Section 32: 4151P, 7374P, 8185P. Section 34: 1654P, 5001P, 5773P, 5774P, 5775P, 9205P. Section 36: 232P, 233P, 234P, 4182P, 4183P, 8209P, 8210P, 9225P. Section 38: 1683P, 1684P, 4202P, 5035P, 5798P, 5799P, 5800P. Section 40: 8269P. Section 42: 1702P, 5062P. Section 46: 5847P. Section 54: 1071P, 5162P, 8431P, 8432P, 9484P. Section 56: 2736P. Section 62: 5201P, 5977P, 9549P, 9550P. Section 64: 458P, 1140P, 1860P, 2775P, 2776P, 5229P, 5230P, 9587P, 9588P. Section 80: 1302P, 2140P, 4648P.
DAI-NIPPON JOCHUGIKU CO — 1813P.
DAI-NIPPON PRINTING CO — Section 02: 774P. Section 44: 9315P. Section 62: 9551P. Section 80: 5461P, 8769P, 9852P.
DAI-NIPPON TORYO CO — Section 08: 9040P. Section 18: 127P, 128P. Section 36: 953P, 9226P. Section 38: 8237P. Section 54: 395P, 4331P, 6743P, 6744P, 8433P. Section 56: 8461P. Section 64: 1141P, 1861P, 8523P.
DAICEL CHEMICAL INDUSTRIES — Section 02: 1471P, 7247P. Section 06: 2294P, 4860P. Section 18: 861P, 3252P. Section 22: 1621P, 1622P. Section 56: 3532P. Section 64: 1862P, 3580P, 6816P. Section 80: 8770P.
DAIDO TOKUSHUKO CO — 20P, 2271P.
DAIHATSU MOTOR CO — 9637P.
DAIKIN KOGYO CO — Section 06: 1494P, 6404P, 6405P, 8007P, 9014P, 9015P. Section 20: 3278P, 4949P, 4950P, 8121P. Section 24: 3321P, 3322P. Section 32: 9199P. Section 36: 954P. Section 38: 978P. Section 46: 4248P. Section 50: 9375P. Section 54: 1788P. Section 64: 1142P, 3581P, 5996P, 9589P. Section 80: 6221P, 9853P.
DAILY J V — 9350, 9351.
DAIREN KAGAKU KOGYO — 6589P.
DAKHIL F H — 6682.
DALLARI C — 6690, 9352.
DALTON D — 2298.
DALY R C — 4645.
DALZELL K W — 2671.
DAMIA A J — 6639.
DANDGE D K — 5763.
DANGER E P — 1178.
DANIEL G F — 3507.
DANIELS E S — 2332.
DANING R — 486.
DANISCH W — 4357.
DANNAKER C J — 555.
DANNEMAN J — 2987.
DANNER M — 6973.
DANSK STANDARDISERINGSRAAD — 3086, 5596.

DANTIKI S — 2408.
DANYUSHEVSKAYA N E — 9417.
DAO L H — 8506.
DAOUD M — 7714.
DARKOWICZ J — 9369.
DAS G — 8998.
DASGUPTA P K — 4508.
DASS N N — 4038.
DATSKO P V — 497.
DATTA P K — 744.
DAUGHERTY K E — 3690.
DAULATABAD C D — 4853, 7253.
DAUMAS S — 2719.
DAVENAS J — 4097.
DAVID H — 3724.
DAVID J C — 6864.
DAVID N J — 7754.
DAVIDOVA A S — 7800.
DAVIDSON J — 7584P.
DAVIDSON K — 9125.
DAVIDSON R S — Section 69: 5281, 5282. Section 79: 1287, 2986, 3793, 5408, 6209.
DAVIDSON T — 6106.
DAVIES G W — 8313.
DAVIES H — 2692, 2693, 6691.
DAVIES M C — 6903.
DAVIES P — 2659.
DAVIES R — 3706.
DAVIES R D — 5135.
DAVIES T W — 8644.
DAVIS A — 357.
DAVIS B H — 9727.
DAVIS I J — 1689.
DAVIS R — 3465.
DAVIS R H — 8660.
DAVIS S C — 5386.
DAVIS T P — 7306.
DAWE T — 5354.
DAWKINS J V — 1932, 3166, 3662, 5602.
DAWSON B S W — 9670.
DAWSON G — 7384.
DAWSON P — 6282.
DAWSON P A — 2671.
DAY D R — 2014.
DAY T — 3079, 4379.
DE ABAJO J — 2447.
DE BRUIJN R A — 305.
DE C P — 7567, 7568, 9418, 9510.
DE CLERCQ R — 4100.
DE FUSCO A J — 2537.
DE GALAN L — 4529.
DE HAAN J W — 3701.
DE HASETH J A — 3692.
DE JONG R I — 9353.
DE JONG W — 6640.
DE KEE D — 3725.
DE KLEERMAEKER J — 6266.
DE KROM A A M — 847.
DE KRUIF C G — 7715.
DE LA COURT F H — 3508.
DE LA NOUGEREDE P — 9331.
DE LA RIE E R — 4910.
DE LA ROSA R — 2281.
DE LANGE P G — 2561.
DE LOOS-VOLLEBREGT M T C — 4529.
DE MEESTER C — 2950.
DE MONCHY A R — 4487.
DE PABLOS F — 6087.
DE PACE M — 7217.
DE PIPPO T — 7441.
DE ROSA E — 3663.
DE SMET P — 5853, 6626.
DE SOTO INC — Section 32: 9200P. Section 36: 9227P. Section 54: 9485P. Section 64: 1143P, 4426P. Section 76: 1280P. Section 80: 607P, 3005P, 4649P, 5462P, 7092P, 7814P.
DE VLIEGER J H — 5614.
DE VRIES O T — 166.
DE WIJN J R — 2125.
DE WIT J H W — 5905.
DEAMAS J N — 3796.
DEAN B D — 3227.
DEAN S W (JR) — 1766, 2660, 3466, 4303.
DEANIN R — 4816.
DEANIN R D — 2409.
DEBANNE S M — 1269.
DEBARROS T — 5807.
DEBNATH N C — 5861.
DEBOLT L C — 9758.
DECK P — 505.
DECKER C — 1055, 1288, 2126.
DEESON E — 7191.
DEFELIPPIS J — 7988.
DEGENER B — 8755.
DEGRAFF B A — 3796.
DEGREVE F — 3664.
DEGUCHI K — 6208.
DEGUSSA AG — 3141P, 7059P, 7093P, 9097P, 9098P.
DEKMEZIAN A H — 6058.
DEKTAR J L — 1291, 2988, 9831.
DEL AMO B — 1094, 4358, 4361, 4362.
DEL DONNO T A — 5008.
DEL PEZZO L — 5216.
DEL RECTOR F — 2385, 4996.
DEL VAL J J — 8136.
DEL'GADIL'O KH E — 9021.
DELAHUNT J F — 5136.
DELASSUS P T — 8700.
DELCHAR T A — 747.
DELEANU T — 4898.
DELGADO J — 3228, 4562.
DELIUS U — 5708.
DELLA TORRE F — 5867.
DELONG L M — 6127.
DELORIO T A — 8265.
DELPY U — 9730.
DELZELL E — 6175.
DEMARCO J — 8258.
DEMPIROVA L — 4006.
DEMYANOVICH R J — 8323, 8324.
DENCHEV Z Z — 265.
DENG S — 7377.
DENISENKO I S — 4575.
DENKI KAGAKU KOGYO CO — Section 18: 4926P. Section 20: 4951P. Section 40: 2577P. Section 54: 5163P. Section 62: 5202P. Section 64: 9590P.
DENNEY R C — 3094.
DENNIS J K — 2637, 3447, 6725.
DENNIS W E — 4414.
DENTON M B — 2862, 9656.
DEPARTMENT OF THE ENVIRONMENT — Section 73: 2069. Section 75: 8728. Section 82: 4689. Section 87: 4744, 4745, 7913, 7914, 8857.
DEPARTMENT OF TRADE AND INDUSTRY — 706, 2240.
DEPARTMENT OF TRANSPORT — 4746.
DEPOR INDUSTRIES — 5934P.
DEPOTO R E — 5443.
DERBY R — 3348.
DESAI G C — 8962.
DESAI V A — 7253.
DESAIAH D — 7755.
DESIMONE J M — 4046.
DESNOYERS J E — 7716.
DESOBRY V — 2989, 9829.
DESOWAG MATERIALSCHUTZ GMBH — 2737P, 3533P.
DESSY R E — 1198.
DESTRI S — 3204.
DETERS L E — 4394.
DETREX CORP — 4332P.
DEUTEKOM B — 4304.
DEUTSCHE FORSCHUNGSGEMEINSCHAFT — 4615.
DEUTSCHE SOLVAY-WERKE GMBH — 4927P.
DEUTSCHE TEXACO AG — 6562P.
DEUTSCHES INSTITUT FUER NORMUNG — Section 88: 725, 726, 727, 1440, 2231, 2232, 2233, 3087, 3088, 3941, 3942, 4777, 4778, 4779, 6342, 6343, 6344, 6345, 6346, 6347, 6348, 6349, 6350, 6351, 6352, 6353, 6354, 6355, 6356, 8947, 8948, 8949, 9997. Section 99: 6361, 6362, 6363.
DEV I — 9540.
DEVAUX J — 6059.

DEVESA J — 4530.
DEVLIN L P — 936.
DEVOE R J — 1289.
DEVON M J — 4539.
DEVRIES J E — 7414, 7415.
DEWIS M — 731, 1389, 2223.
DEZERN J F — 162.
DHAMELINCOURT P — 8617.
DHODAPKAR S — 3421.
DI GIROLAMO R — 6817P.
DI SARLI A R — 4305, 5137, 6692.
DI SILVESTRO G — 3167, 4044.
DIAMOND SHAMROCK CHEMICALS CO — 4976P.
DIAZ J — 356, 6719.
DIBENEDETTO A T — 9734.
DICICCIO R L — 664.
DICK HERCULES CO — 442P, 3557P, 5203P, 8491P.
DICK R B — 4576.
DICKER I B — 4042, 5695.
DICKERSON J P — 1956.
DICKERT F L — 506.
DICKIE R A — 503, 3095, 7414, 7415.
DICKINSON D J — 3509.
DICKINSON L C — 6152.
DICKINSON P — 1199.
DICKSTEIN W H — 4541.
DIECKMANN R — 8635.
DIEHL J W — 1223, 2884.
DIETER R — 7452..
DIETRICH B K — 90, 1551.
DIETZ R — 8389.
DILANDRO L — 9734.
DILL D R — 4393.
DILL L — 4146, 5563, 5564, 7201.
DILLARD D A — 4554, 4555, 4565, 6860.
DILLARD J G — 2628.
DILLER W — 556.
DILLMAN S H — 6036.
DILLON M P — 838.
DILLON R L — 7627.
DIMIAN A F — 2386.
DIMITROVA B — 3726.
DIMITROW S — 5736.
DIMONIE V — 6904.
DIMONIE V L — 2387.
DIMOV K — 9750.
DINGA G P — 2832.
DINWOODIE J M — 3767.
DIPAOLA-BARANYI G — 1933.
DIRLIKOV S K — 6445, 9477.
DISKSTEIN H L — 4541.
DISSADO L A — 8668.
DISTEFANO F V — 3369, 5045.
DITTEN D — 5283.
DITTMAN-MCBAIN C B — 5661.
DIVIS R A — 4488.
DIX K D — 9671.
DIXON D D — 2457.
DIXON P — 5573.
DOAK S M A — 569.
DOBBY G S — 2974.
DOBRIYAL P B — 2717.
DOBROVONSKII I P — 4828P.
DODIN YU S — 7479.
DODIUK H — 3623, 5050, 6159.
DOELKER E — 4535, 9059P.
DOHERTY M A — 4043.
DOHERTY M F — 7457.
DOI T — 4629.
DOI Y — 8425.
DOMBEY S — 4415.
DOMES H — 4120.
DOMEST SERVICE CENT — 9259P.
DOMINGO J L — 6187.
DOMKE W-D — 6943.
DON PROMSTROINIIPRO — 7610P.
DON T-M — 8583.
DONAGHY C — 9672.
DONALDSON G R — 2853.
DONALDSON K — 7014.
DONATI O — 1849.
DONDOS A — 6949.
DONELLI M — 6176.
DONESCU D — 6957, 7308.
DONG H S — 8078.
DONG S — 1934.
DONNET J B — 3957.
DOORGEEST T — 2224, 5355, 5356, 6177, 6178.
DORAN P — 5357.
DOREN A — 8661.
DORETTI L — 9673.
DORING G — 6030.
DORN L — 5868.
DORNER B — 7075.
DOROSZKOWSKI A — 1034.
DORSET D L — 1935.
DORSEY J G — 3658.
DOSEDLOVA A — 7994.
DOSEVA V — 436.
DOSRAMOS J G — 8695.
DOSTOVALOVA V I — 3982.
DOTSON N A — 3161.
DOTTORE J — 2301.
DOUGHERTY E P — 1527.
DOUGHERTY G J — 2671.
DOUGHERTY J A — 5409.
DOUGHERTY W R — 2415.
DOUGLAS J M — 7457.
DOUGLASS D — 6641.
DOW CHEMICAL CO — Section 02: 775P, 776P, 1472P, 6385P, 8980P. Section 06: 8008P. Section 08: 3998P, 4874P, 9041P. Section 12: 6430P. Section 18: 129P, 130P, 862P, 2424P, 2425P, 2426P, 3253P, 3254P, 3255P, 3256P, 4068P, 4069P, 4070P, 4928P, 4929P, 5723P, 6462P, 6463P, 6464P, 8102P, 8103P, 9099P, 9100P, 9101P, 9102P, 9103P, 9104P. Section 22: 900P, 901P, 1623P, 2475P, 3300P, 4964P, 8141P, 9138P, 9139P. Section 24: 1640P. Section 28: 933P, 3330P, 9186P. Section 30: 4987P. Section 34: 4160P. Section 36: 8211P, 8212P, 8213P. Section 40: 6590P. Section 50: 2642P, 6663P. Section 64: 2777P, 4427P. Section 80: 2141P, 2142P, 2143P, 2144P, 2145P, 5463P.
DOW CORNING CORP — Section 02: 8981P. Section 06: 3986P. Section 24: 923P, 924P, 925P, 1641P, 2494P, 3323P, 4977P, 6526P, 9176P. Section 36: 5788P. Section 40: 7423P, 9260P. Section 42: 5063P. Section 44: 3406P. Section 46: 6618P. Section 50: 5888P. Section 54: 396P, 6745P, 9486P. Section 60: 1109P. Section 64: 459P. Section 80: 608P, 3006P, 9854P, 9855P.
DOW CORNING LTD — 2527P, 8164P.
DOWA MINING CO — 21P.
DOWBENKO R — 8758.
DOWN B — 8342.
DOWNEY A — 2720.
DOYLE J A — 3072, 7202.
DRAGO R S — 45, 7991.
DRAGT A J — 2120.
DRAKE A F — 8565.
DRAKE M C — 7747.
DRAKE R — 9255.
DRAUGHON R N — 9354.
DRAZIC D M — 6974.
DRESSER INDUSTRIES INC — 6563P.
DREYFUSS M P — 2370.
DREYFUSS P — 2370, 5262.
DRISCOLL J — 1035.
DRISKO R W — 9193.
DROBNY G P — 4510.
DROLL K — 222, 358.
DROZ P O — 4570, 9768, 9769.
DRUMMOND C J — 6128.
DRUZ' N I — 6060.
DRY COLOR MANUFACTURERS' ASSOCIATION — 7951.
DU PONT DE NEMOURS & CO — Section 02: 2272P, 4829P, 6386P. Section 06: 791P, 3142P, 5641P, 7264P. Section 08: 3152P, 4875P, 6419P. Section 12: 824P, 4892P, 7293P. Section 18: 863P, 864P, 865P, 2427P, 4071P, 6465P, 6466P, 6467P, 6468P, 7323P. Section 20: 6486P, 6487P. Section 22: 9140P, 9141P. Section 24: 926P. Section 32: 939P, 3337P, 6537P, 9201P. Section 34: 212P, 2528P, 3344P, 4161P, 5776P, 7379P. Section 36: 2552P.

Section 44: 6609P. Section 52: 2650P. Section 54: 3488P. Section 62: 6795P. Section 64: 460P, 4428P, 5997P, 7611P. Section 66: 3615P.
DU PRE D B — 5280.
DUBE N A — 3333.
DUBININ M K — 7483.
DUBOIS J C — 4630.
DUERR B F — 7989.
DUEVER T A — 1528.
DUFEK J — 3548.
DUFF N V K — 7635.
DUFOUR P — 5410.
DUGGIRALA S K — 3415.
DUGUEV S V — 2031.
DUKHOVNAYA I S — 2854.
DUKIC L — 359.
DULOG L — Section 01: 2251. Section 49: 1041. Section 71: 1243. Section 82: 4690, 7148, 7149.
DUMDEL B E — 3783.
DUMITRIU E M — 5308.
DUNBAR J — 9355.
DUNCAN J R — 2661.
DUNCAN W P — 8620.
DUNDAS D — 7477.
DUNK J V — 4380.
DUNLAP W P — 3611.
DUNN A S — 3168, 3185, 9049.
DUNN H J — 5058.
DUNN N W — 4143.
DUNN P M — 6698.
DUNN R O — 7050.
DUNN S G W — 512.
DUNNICK J K — 4577.
DUNPHY J F — 101.
DUNWALD W — 2448.
DURMIS J — 9024.
DURNING C J — 6162, 8664, 8665.
DUSEK K — 2333, 6160, 6870, 9081, 9082.
DUSSORT A — 6659.
DUSWALT J M — 6084.
DWELLING SERVICING — 8524P.
DWIGHT D W — 1217.
DYER A — 6061.
DYETT M J — 5869.
DYNAMIC DISK INC — 6664P.
DYNIN V S — 7371.
DYNOBEL A/S — 1624P.
DZHABYAN N E — 7800.
DZHANDZHAPANYAN A N — 9674.
DZIERZEWICZ Z — 5138.
DZIUBANOWSKI - — 5274.

E

EARHART N J — 6904.
EARTH SEIYAKU CO — 421P.
EASTERBY D L — 9675.
EASTMAN E F — 2570.
EASTMAN KODAK CO — Section 18: 866P, 4072P, 5724P, 6469P, 9105P, 9106P. Section 22: 902P. Section 36: 1663P. Section 42: 4228P, 4229P, 4230P, 9293P. Section 50: 9376P.
EASY R — 2015.
EATON D R — 6062.
EATON M — 1036.
EATON R A — 3527.
EATON R F — 2391, 5422.
EBBIGHAUSEN H — 8748.
EBDON J R — 507.
EBDON L — 3674, 5279, 6063.
EBERSOLE R C — 418.
EBERT S — 1850.
EC KAGAKU KOGYO CO — 3822P.
ECC AMERICA INC — Section 02: 22P, 23P, 3969P, 3970P, 7968P, 7969P, 7970P, 8982P.
ECC INTERNATIONAL LTD — Section 02: 777P, 778P, 779P, 3971P, 3972P. Section 62: 2755P.
ECHEVERRIA D — 9770.
ECKBERG R P — 5411, 7808, 8764.
ECKERSLEY J B — 3031.
ECKERSLEY S T — 2538, 8197.
ECKHOFF R K — 5358.
ECOLAB INC — 3534P, 4333P, 4334P.
EDGE M — 9187.
EDGERTON S — 7051.
EDLING C — 2070.
EDMOND L — 5732.
EDYVEAN R G J — 3467, 5943.
EGBOH S H O — 2388.
EGEE M — 5320.
EGGINS H O W — 3953.
EGUCHI Y — 8155.
EHARA Y — 1458.
EHRENSTEIN G W — 7524.
EHRLE C — 705, 2511.
EICHINGER B E — 5743.
EICHLER J — 3548.
EILERT E — 3468.
EINBRODT H J — 2058, 6190.
EINERSON J H — 1936.
EINHORN S — 7121.
EISBY V — 3440.
EISENBACH C D — 102.
EISENBRANDT D L — 4601.
EISENSCHMIDT J — 6946.
EKC TECHNOLOGY INC — 9856P.
EKMANIS J L — 1937.
EKNER A — 2086.
EL-AASSER M S — Section 11: 2332, 7290. Section 17: 2387, 3228. Section 67: 6871. Section 69: 6904. Section 71: 4562, 5319.
EL-BAYOUKI K A M — 1807.
EL-HAMSHARA H — 2279.
EL-MAGHRABY M A — 7955.
ELASTOGRAN GMBH — 1117P, 5123P.
ELBASIR A A — 6861.
ELDER T J — 5871.
ELDERFIELD D — 7478.
ELEC HOUSEHLD MACH — 9377P.
ELECTRICAL INSULATING MATERIALS — 8477P.
ELECTROMECH RES — 9533P.
ELECTROSTATIC TECHNOLOGY INC — 6665P.
ELEKTRO-BRITE GMBH — 6666P.
ELIAS M G — 665.
ELICABE G E — 78, 6129.
ELIN O V — 1565, 7315.
ELLENBECKER M J — 9688.
ELLERSTEIN S M — 987.
ELLIOTT M L — 7569.
ELLIOTT P — 2662, 3797.
ELLIS H — 8481.
ELLIS M F — 839.
ELLISON S — 508.
ELLISON T M — 6818P.
ELLOR J A — 5907.
ELMOSALAMY M A F — 6064.
ELMS R — 8418.
ELOMAA M — 6065.
ELSBERND C S — 912.
ELSENER B — 7527.
ELSISI A E — 8709.
ELSMORE E — 3510.
ELSMORE R — 3511.
ELSON E L — 9707.
ELTEKOV YU A — 3727.
ELTEKOVA N A — 3727.
EMA M — 9771.
EMBER L R — 9974.
EMBREE E — 7535.
EMBUREY H J — 1200.
EMELIE B — 1240.
EMERSON J A — 8699.
EMIROVA I V — 7479.
EMKEN F E — 517.
ENCINAS M V — 3798, 6211.
ENDO A — 5337, 7743.
ENDO C — 1027.
ENDO T — Section 15: 91, 5679. Section 17: 2412, 3237, 4049, 5718. Section 19: 8119. Section 21: 7343. Section 23: 918.
ENE D — 7238.
ENG A T — 2918.

ENG K — 5296, 7785, 7795.
ENGELHARD CORP — 3973P.
ENGELHARDT R R — 208.
ENGELS K — 1025, 4252.
ENGINEERING POLICY STUDIES UNIT — 5575.
ENGMAN J A — 590P.
ENGSTROM K — 2090.
ENICHEM SYNTHESIS SPA — 8983P.
ENIKEEVA G A — 5204P.
ENIRICERCHE SPA — 327P.
ENNIS B C — 4542.
ENOMOTO T — 4101.
ENRIGHT C F — 3943.
ENSLEY B D — 8743.
ENTWISTLE T — 6369.
ENVIRONMENTAL PROTECTION AGENCY — 709.
EPA W R — 2286.
EPAILLARD F — 1558.
EPIC PRODUCTS INTERNATIONAL CORP — 9378P.
EPLER K S — 1938.
EPOSOL CO — 1144P.
EPPERLEIN J — 1201.
EPTON J — 8325.
ERANIAN A — 4630.
ERBIL H Y — 1241, 2912.
EREZ N — 9518.
ERHAN S — 5740.
ERICKSON J R — 8248.
ERIG M — 4583.
ERISMANN K — 5359.
ERMAN V YU — 3582P.
EROMOSELE I C — 9127.
ERSKINE D — 2855.
ERSKINE S R — 6905.
ERXLEBEN J — 1560.
ESANCY M K — 757.
ESCOUBES M — 2913.
ESIH I — 6705, 6740.
ESKENAZI B — 6179, 6180.
ESPADA L — 6693.
ESPANOL BALLARIN H — 6200.
ESPOSITO F M — 7015.
ESSEX GROUP INC — 1821P, 6768P, 6769P.
ESSEX SPECIALTY PRODUCTS INC — 825P, 995P, 2611P.
ESTES E — 5908.
ESUMI K — 2023.
ETHYL CORP — 1577P, 7364P, 8009P, 8484P.
EULITZ G — 1456, 2929, 7957.
EUROPEAN CHEMICAL IND ECOLOGY AND TOXICOLOGY CENTRE — Section 73: 557, 558, 4578, 5360, 5361, 9772. Section 75: 577, 578.
EUROPEAN COMMITTEE FOR STANDARDISATION — 3944.
EUROPEAN COMMUNITIES — 710, 4747.
EUROPEAN COMMUNITIES ECONOMIC AND SOCIAL COMMITTEE — 6332.
EUROPEAN PARLIAMENT — Section 87: 4748, 4749, 4750, 4751, 4752, 4753, 4754, 4755, 6333.
EUROSTAT — 1356.
EUSTIS S L — 4577.
EUVERARD M — 6975.
EVANS E — 8662.
EVANS J S — 5364.
EVANS L — 8326.
EVERALL N J — 9676.
EVERETT D H — 4793.
EVTIMOVA R — 4852.
EWINS E E — 8248.
EXXON CHEMICAL PATENTS INC — 97P, 1578P, 5164P, 9261P.
EXXON CHEMICALS — 3096.
EXXON RESEARCH & ENGINEERING CO — 5848P, 9142P.
EZ PAINTR CORP — 7504P.
EZQUERRA T — 4959.
EZZAT T M — 2.

F

FABRE J — 3720.
FABRIS H J — 5042.
FABRIS P — 7200.
FACHINFORMATIONSZENTRUM CHEMIE GMBH (COMPILER) — 2241.
FADNER T A — 6968.
FAGBULE M O — 2388.
FAGIOLI F — 2869.
FAIR J R — 2283.
FAIR M C — 5314.
FAIRCHILD M D — 3603, 8566.
FAIRCLOTH G E — 3366.
FAITH P L — 8350.
FAKUNLE B O — 2523.
FALANGA L A — 3000.
FALCONE F — 579.
FALCONE S J — 4536.
FALKE P — 9677.
FALLA N A R — 2856, 6130.
FALLON H J — 2076.
FAM S A — 2.
FAN F-R F — 4480.
FAN L T — 3415.
FANGMARK I — 7674.
FANOV YU A — 4489.
FARCASIU D — 1492.
FARDELL P J — 4579.
FARHADPOUR F A — 3728.
FARIA R M — 4507.
FARIN D — 9735.
FARINA M — 4044.
FARLEE R D — 4506.
FARLEY J M — 4098.
FARMER J A — 8625.
FARMER T — 7016.
FARRINGTON T E — 6042.
FARRIS R J — 3729, 5307.
FASANMADE A A — 6906.
FASI L — 988.
FASTRUP B — 2663, 2664.
FATELEY W G — 7665, 8622.
FATERPEKAR S A — 7226.
FATERPEKER S A — 7227, 8963, 8964, 8965.
FATICA M G — 6907.
FAUCHER M P — 9217.
FAULKNER J — 5579.
FAYAD N M — 2857.
FAYERWEATHER W E — 2065, 2066, 3766, 7779.
FAZEY I H — Section 81: 5494. Section 83: 5524, 5525. Section 84: 692, 2207, 5565, 5566. Section 87: 5582.
FEAST W J — 3208, 8072, 8073.
FEDII A A — 7228.
FEDONINA V F — 6066.
FEDORCHENKO E I — 1690.
FEDOROV I V — 7540.
FEDOROVSKAYA L F — 4618.
FEDOROVSKII O YU — 7479.
FEDOTOVA L V — 9009.
FEDTKE M — 6946, 7002, 8079, 9072.
FEGER C — 5737.
FEHER F J — 7956.
FEHLING C — 2091.
FEHRMANN A — 6074.
FEIGE CH — 937.
FEILKE H — 4756.
FEIST W C — 1056, 2665, 5919, 5986, 6045.
FELDMAN D — 6615.
FELIU S — Section 53: 352, 360, 1767, 4312, 6694, 8390, 8393.
FELIU V — 1767.
FELIX SCHOELLER GMBH — 4238P.
FELL A F — 2903, 6906.
FENG M-X — 1183.
FENG Y — 6445.
FENNELL D — 1390.
FENSELAU C — 1939.
FERCH H — 2252.
FERFA — 9773.
FERLAUTO E C — 580.
FERNANDEZ MARCOS L — 3925.
FERNANDO R H — 799, 6881.
FERRARI F — 3718.

FERRARI G — 9511.
FERRARI G M — 6642.
FERREIRA M G S — 2729.
FERRERO F — 2130, 3799.
FERRICK M R — 7302.
FERRO CORP — 4876P.
FERRONI E — 2909.
FETTERS L J — 4894.
FETZER J C — 4481.
FEWELL A R — 3767.
FEWTRELL J — 5215.
FEYT L — 1020.
FIEDEL H W — 6908.
FIELD B O — 6887.
FIELDEN P R — 3665, 5291.
FIELDS T — 3080.
FIGOVSKII O L — 6695.
FIGOVSKY O L — 4416.
FIGUEIREDO O — 8380.
FILBEY J A — 7636.
FILSINGER D H — 2868.
FIN N — 3623.
FINGERMAN S W — 7786.
FINK H — 361, 3469, 7949, 8502, 8503.
FINK J K — 833, 4911.
FINKELSTEIN M A — 3606.
FINTER J — 4631.
FIORENTINI E — 2100.
FIORINI M — 182.
FIRE PROTECTION ASSOCIATION — 1270, 7017, 7018, 8710.
FIRE TEST STUDY GROUP — 4789.
FIRESTONE TIRE & RUBBER CO — 1625P, 1626P, 2778P.
FISCH R S — 6853.
FISCHBACH T J — 4616.
FISCHER C-H — 6429.
FISCHER E W — 6122.
FISCHER J P — 6446.
FISCHER K — 102.
FISCHER K-H — 6394.
FISCHER R — 4120.
FISCHER T — 4490.
FISCHER W — 5906.
FISHEL M — 5106.
FISHER A A — 559.
FISHER C H — 1490.
FISHER J W — 4603.
FITCHETT M — 5423.
FITZ-SIMONS T R — 7789.
FITZGERALD J J — 913.
FLACK J — 6067.
FLACK J R — 5412.
FLAHERTY D K — 2071.
FLAMENT-GARCIA M J — 9219.
FLAMMERSHEIM H J — 4543.
FLANDERS S K — 7603.
FLANNIGAN B — 6759.
FLECHTER T — 758.
FLEEGER A K — 1271.
FLEER G J — 8066.
FLEGENTOV I V — 4277.
FLEIG G — 9356.
FLEISCH K A — 5426.
FLEMING G K — 7738.
FLEMING J — 8504.
FLEMING P D — 6902.
FLETCHER J F — 6976.
FLETCHER J L — 4544.
FLETCHER R A — 6909.
FLETCHER R L — 410, 1808, 3529.
FLICK E W — 7218, 7219.
FLINT C D — 5326.
FLIS J — 3480.
FLODIN U — 4580.
FLORIANCZYK T — 6524.
FLORJANCZYK Z — 6524.
FLOTT L W — 4698.
FLOY B J — 1242.
FLOYD F L — 362.
FLOYD R — 7480.
FLUHR W — 520.
FLYNN J — 5315.
FOCK J — 4209.
FOGLER H S — 3762, 8738.
FOHLEN G M — 8611.
FOISTER R T — 6140.
FOKKINK L G J — 8663.
FOLEY K F — 95.
FOLKERMAN F — 3434.
FOLSCH K J — 88.
FONTANILLE M — Section 11: 2334, 2335. Section 15: 4900. Section 21: 4099. Section 71: 544, 2914.
FONTELOS M A — 1184.
FOOTE C S — 2287.
FORD FRANCE SA — 1072P, 1073P, 1074P, 5165P.
FORD MOTOR CO — Section 54: 1072P, 1073P, 1074P, 4335P, 4336P, 4337P, 5165P, 6746P, 9487P.
FORD P I — 5059.
FORD W T — 4009, 8000.
FORD-WERKE AG — 1072P, 1073P, 1074P.
FORD-WERKE GMBH — 5165P.
FORGIONE P S — 8133.
FORKER W — 7949.
FORMOY T R — 6131.
FORNARI B — 1357.
FORNES R E — 8078.
FORSTER R C — 6068.
FORSYTH K — 5808.
FORT F A — 3672.
FORTIN R — 2487.
FORTUNATO B — 5699.
FOSCANTE R E — 450.
FOSECO INTERNATIONAL LTD — 2643P.
FOSTER B W — 3368.
FOSTER H — 732.
FOSTER J N (JR) — 3926, 6181.
FOSTER K — 5196.
FOSTER P — 732.
FOSTER T — 5944.
FOUASSIER J P — 601, 4637, 4638, 8759, 9830.
FOUSSEREAU J — 552, 2064.
FOX D J — 4143.
FOX D L — 7660.
FOX M A — 2858.
FRADET A — 3199, 3229.
FRAHNE V D — 7661.
FRANCE (GOVERNMENT OF) — 4757.
FRANCE G H — 4461.
FRANCIS D J — 1530.
FRANCIS J G — 9692.
FRANCIS P E — 3951.
FRANCK M — 2629.
FRANCO G — 4581.
FRANCOIS B — 96.
FRANCOIS R — 5387.
FRANIAU R — 7402.
FRANK C W — 1253.
FRANK FEHR AND CO LTD — 3046.
FRANKEL E N — 9678.
FRANKLIN M J — 9419.
FRANZ K — 4815.
FRANZETTI F — 363.
FRANZKE M — 5413.
FRAPPAZ G — 306.
FRASER I M — 2253.
FRASER-REID B O — 8173.
FRATTINI C — 6049.
FRAUNHOFER GES FORDERUNG ANGEWANDTEN FORSCHUNG EV — 2365P.
FRAUSIN M — 307, 4306, 4307, 9357.
FRAUSON L E — 8718.
FRAYLE VILLAMANAN J L — 3607.
FRECH W — 2882.
FREDRICKSON G H — 5675.
FREDRIKSSON L — 2762.
FREED D M — 8711.
FREEMAN CHEMICAL CORP — 5205P.
FREEMAN D B — 2630.
FREEMAN H S — 757.
FREEMAN J E — 4338P.
FREEMAN R D — 6267.

FREIBERG S — 5414.
FREIJ G H — 5124P.
FREILICH S C — 2855.
FREITAG M — 1990.
FRENKEL' L I — 4268.
FREUDENBERG CARL FA — 4296P.
FREUDENBERGER J H — 7990.
FREUND L — 9007.
FREY G — 1243.
FRIBERG L — 5599, 7695.
FRIEDRICH H — 1768.
FRIES J A — 5415.
FRIND H — 6069, 8191.
FRISCH H L — 815, 3169, 4021, 9738.
FRISCH K C — Section 11: 815, 2364, 4889. Section 21: 3283, 5748, 8137. Section 39: 266, 1691.
FRITSCH H — 363.
FRITSCHE B — 4247.
FRITZ J S — 9671.
FROEHLICH M L — 1223, 2884.
FROMAGEOT D — 9128.
FROST A M — 7570.
FROST AND SULLIVAN — 666, 1358.
FROST N R — 8391.
FRUSHOUR B G — 1202.
FRY G A — 8567.
FRYE G C — 1244, 3993.
FRYER T — 9808.
FSK CO — 4650P.
FU F-S — 186.
FUBINI B — 9733.
FUCHS E W — 2974.
FUHRMEISTER E — 308.
FUJI HEAVY INDUSTRY CO — 1740P.
FUJI PHOTO FILM CO — Section 06: 9016P. Section 42: 8293P. Section 44: 4239P. Section 64: 8525P. Section 80: 609P, 610P, 1303P, 1304P, 2146P, 2147P, 2148P, 4651P, 5464P, 5465P, 5466P, 5467P, 5468P, 6222P, 6223P, 7094P, 7095P, 8771P, 8772P, 8773P, 8774P, 9857P, 9858P, 9859P.
FUJI XEROX CO — 1544P.
FUJIHARA G — 1131.
FUJII N — 4858.
FUJIKURA CABLE WORKS — 3583P.
FUJIKURA KASEI CO — 5231P, 8186P, 8775P, 9143P.
FUJIMORI Y — 9825P.
FUJIMOTO C — 7662.
FUJIMOTO T — 4895.
FUJINO A — 9084.
FUJISHIMA A — 1464, 6377.
FUJITA K — 116, 4917.
FUJITA T — 393, 419.
FUJITSU LTD — Section 42: 9294P. Section 48: 1029P, 2624P. Section 50: 3451P. Section 58: 1822P. Section 62: 9552P. Section 64: 1145P, 9591P. Section 70: 8650P. Section 80: 611P, 1305P, 1306P, 1307P, 3823P, 3824P, 3825P, 6224P, 7815P, 8776P, 9860P, 9861P.
FUJIWARA H — 6070.
FUKAYA H — 5339.
FUKUCHI Y — 840.
FUKUDA A — 9643.
FUKUNISHI R — 2023.
FUKUSHIMA K — 1203.
FUKUSHIMA T — 3112.
FUKUTOMI T — 6151.
FUKUZAWA K — 8249.
FULCHER A — 7931.
FULD K — 486.
FULGHUM J E — 7663.
FULL J A — 5043.
FULLER B W — 6977.
FULLER E L (JR) — 9736.
FULLER G G — 6854.
FULLER H B CO — 1695P, 6591P, 8270P.
FULLER M — 509.
FULTZ B S — 2666, 7465.
FUNAZUKURI T — 4545.
FUNKE W — 1185, 2657, 4037, 6696, 8040.
FUNKE W E — 2336.
FUNT B L — 2455.
FURR H C — 6910.
FURTADO S E J — 410.
FURUKAWA ELECTRIC CO — 979P, 1789P, 3489P, 4429P, 6770P.
FURUKAWA M — 4122.
FURUSAKI S — 693.
FURUSAWA K — 3730.
FUSULAN L — 7308.
FUTRELL J H — 3285.
FUX P — 6911.
FUXE K — 2951.

G

G'SELL C — 3627.
GABE D R — 1042.
GABER D J — 9421.
GABOR M — 5372.
GABOURY S R — 4491, 6110.
GABRIELLI G — 2909, 2915.
GAD S C — 2072.
GADDA L — 8174.
GADE A — 560.
GADODIA S K — 6882, 7642.
GAERTNER R R W — 1204, 1205.
GAF CORP — Section 44: 5840P, 5841P. Section 52: 6681P, 8378P. Section 62: 8492P. Section 64: 1146P.
GAGLANI K — 2298.
GAGNON Y T — 1963.
GAIDUCHENYA G M — 7790.
GAILLARD G — 8392.
GAIND V S — 6912.
GAITHER H — 4395.
GAJENDRAGAD M R — 7539.
GAJERSKI R LABUS S — 5139.
GAL Y-S — 188.
GALAL A — 8156.
GALEMBECK F — 1260.
GALIN J-C — 919.
GALLAND J — 6736.
GALLANTE D — 5398.
GALLINA N — 5870.
GALLON M R — 795.
GALLOWAY F M (JR) — 1523, 1555.
GALVAN J C — 4312, 6694, 7491, 8390, 8393.
GALVEZ-SOSA D — 8402.
GAMBETTA A — 5945.
GAN S — 9642.
GANAZZOLI F — 1184.
GANDE M E — 1506, 6411.
GANDINI A — 2405, 8052.
GANESA SARMA V — 1769.
GANKINA E S — 6929.
GAO C-X — 1206.
GARAI T — 2869.
GARAPON J — 890, 9144P.
GARAY M T — 3165.
GARBASSI F — 3446, 6996, 8679.
GARCIA M E F — 5696.
GARCIA-ROMERO B — 3787.
GARCIA-RUBIO L H — 1940, 1974, 6129.
GARDELLA J A — 6111.
GARDETTE J-L — 9129.
GARDNER D M — 1608.
GARDU R — 2535.
GARDZIELLA A — 2861.
GAREY H E — 7592.
GARNDER D J — 5871.
GARNER A F — 6697.
GARNER P J — 2868.
GARNETT J L — 3814, 8754.
GARNETT N — 5526.
GARNIER R — 4582.
GARONE G — 1729.
GARRATT P G — 1290, 5416.
GARRELL R L — 6913.
GARRIDO J — 2135, 3798, 6211.
GARRISON R P — 4583.
GARRONE E — 9733.
GARTON A — 5650.
GARVEY B — 365.
GASTER T — 291.

GATECHAIR L R — 2524, 5417, 6447.
GATENHOLM P — 8041.
GAUMET S — 9129.
GAYLORD L — 6180.
GAYLORD N G — 103, 9023.
GAYMANS R J — 3284.
GAZICKA E — 3444.
GAZIZULIN V M — 1028.
GAZZOLI D — 4546.
GEALER C A — 5975.
GEBREYES K — 815, 3169.
GEDAM P H — 1613.
GEE M — 8586.
GEE M L — 6135.
GEHRING G A — 5907.
GEIBEL J F — 3310.
GEIDYSH L S — 3379P.
GEISSLER G — 1179.
GENCORP INC — Section 14: 6437P. Section 20: 4093P. Section 60: 4389P, 4390P. Section 62: 4404P. Section 64: 2779P.
GENERAL ELECTRIC CO — Section 06: 792P. Section 08: 3999P. Section 12: 86P. Section 18: 867P, 1579P, 2428P, 3257P, 4930P, 4931P, 7324P, 7325P, 9107P. Section 22: 903P, 904P, 1627P, 9145P. Section 24: 927P, 2495P, 4978P, 8165P, 8166P, 9177P. Section 38: 2566P, 2567P. Section 40: 9262P. Section 54: 8434P. Section 58: 6771P. Section 60: 1110P. Section 62: 1118P, 3558P. Section 64: 2780P, 9592P. Section 80: 1308P, 1309P, 2149P, 3826P, 9862P, 9863P.
GENERAL MOTORS CORP — 996P, 8358P, 9379P.
GENERAL SERVICE RESEARCH — 5232P.
GENERALOV S N — 2178.
GENERALOVA A YU — 9263P.
GENESEE POLYMERS CORP — 3584P.
GENG Y — 7637.
GENIN J M R — 5917.
GENSHI NENRYO KOGYO — 1147P.
GENT J A — 5197.
GENTEX CORP — 4979P, 9553P.
GENTILE F T — 3170.
GEORGE K E — 1530.
GEORGE M H — 2452, 7340.
GEORGE S E — 2380.
GEORGELOS P N — 496.
GEORGIEV ZH L — 7744.
GERARD D R — 6201.
GERARD J-F — 189.
GERASIMOVA L G — 7229.
GERLACH I — 9220.
GERLOCK J L — 411.
GERMAN A L — Section 01: 4813. Section 11: 2329. Section 13: 7298. Section 15: 834, 6439. Section 17: 1567, 4906. Section 69: 2895, 6107.
GERNER M — 6643.
GERRARD D L — 3103.
GERSHANOVA E L — 1681, 7802, 9202, 9246.
GERSHLIKOVICH I L — 7790.
GESENHUES U — 2916.
GESSNER W — 1897.
GETTWERT G — 222.
GEUSKENS G — 1507, 7276.
GEY C — 2405.
GHATGE N D — 894.
GHEZZI I — 6099.
GHITTORI G — 2961.
GHODBANE S — 4494.
GHODE P M — 8973.
GIANNETTI E — 79, 829, 7296.
GIARDINA G — 5872.
GIARRUSSO A — 3212.
GIBBONS T J — 5418.
GIDDINGS J C — Section 69: 1914, 1947, 3666, 6071, 6097, 6914, 6925. Section 71: 5316, 8693.
GIERCZAK C A — 1764.
GIESE J A — 1730.
GILBERT A H — 6035.
GILBERT M T — 5603.
GILBERT R A — 6900.
GILBERT R D — 8078.
GILBERT R G — 819, 1547, 3181, 8061.
GILBEY G J — 6627.
GILBY P G — 7779.
GILEADI E — 1061.
GILES J J — 4492.
GILL D E — 252.
GILL T T — 510.
GILLEN M — 7756.
GILLEO K — 6862.
GILLHAM J K — 2827, 6863, 7007.
GILLIOM L R — 5680.
GILLMOR J R — 8598.
GILPIN J A — 5681.
GIMENEZ S — 4312.
GINDRUIP W L — 3570.
GINSBERG T — 3470.
GIOLINI CHEMIE GMBH — 9042P.
GIONFINI M — 5093.
GIORDANI P — 5105.
GIORDANO R P — 4541.
GIRAL L — 4642.
GIUDICE C A — 1094, 4356, 4358, 4361, 4362.
GIULEMETOVA K — 9452.
GIULIANI J F — 1245.
GIUMANINI A G — 2859.
GIVENS E H — 1647.
GIVENS J — 3625.
GLADYSHEV G YU — 8972.
GLADYSHEV V M — 7604.
GLAJCH J L — 4506.
GLASER F — 2807.
GLASER R A — 5284.
GLASS G K — 7528.
GLASS J E — Section 07: 5646. Section 35: 2541. Section 67: 2832, 6881, 8581. Section 69: 1921.
GLASSPOOL J G — 5527.
GLATTER O — 4548.
GLATZ B A — 37.
GLAVERBEL — 6387P, 6819P, 6820P.
GLAVES C L — 7717.
GLEICH H — 6644.
GLENDON A I — 7930.
GLERIA M — 4123, 9133.
GLICK M R — 6101.
GLIDDEN CO — Section 08: 806P, 9043P. Section 18: 6470P. Section 24: 2496P. Section 34: 7380P. Section 36: 4184P, 5014P, 5015P, 5016P, 6564P. Section 38: 980P. Section 62: 1119P.
GLINDMEYER H W — 3768.
GLISH G L — 2876.
GLOCKNER G — 1941, 5285, 9679.
GLOR M — 3097.
GLUSKIN V M — 8526P.
GNANOU Y — 914, 6433.
GNAUCK R — 6072, 9005.
GNEEVA V I — 9680.
GODARD P — 8042.
GODDARD K — 3416.
GODDARD V W — 2016.
GODFREY D A — 3375.
GODREJ — 5094.
GODWIN M J — 3573.
GOETHALS E J — 2337, 2350, 2449, 2488, 4100.
GOETZKY P — 516.
GOFF D L — 6132.
GOFF L J — 9066.
GOGGINS C R — 2721.
GOGHOVA M — 9024.
GOGINA L N — 9417.
GOGTE B B — 120.
GOH G L — 2073.
GOL'BRAIKH V Z — 7466.
GOL'DFEIN M D — 3983.
GOLD M H — 235P, 275P.
GOLDBAUM E — 2179, 7843.
GOLDBERG I B — 6968.
GOLDFARB I J — 6924.
GOLDFINE H — 5180.
GOLDIE B F — 6698.
GOLDIE B P F — 364, 1457.
GOLDSCHMIDT AG — 3324P, 3490P, 4877P.
GOLDSTEIN A S — 7991.

GOLDSTEIN J E — 2457.
GOLOSOVA O P — 392.
GOLSHAN-SHIRAZI S — 4493, 4494.
GOLUB M A — 9756.
GOLUBEV S V — 7307.
GOLUBOV V N — 7230.
GOMAA A Z — 6808.
GOMBOTZ W R — 1731.
GOMEL PAPER-WOODCHEM — 7595P.
GOMEZ M A — 1995.
GOMEZ-BELINCHON J I — 8621.
GOMEZ-MONUX M — 6964.
GOMZI Z — 820.
GONDOH T — 3417, 7718.
GONSALVES K E — 1634.
GONSER J — 8341.
GONZALEZ A — 6693.
GONZALEZ J A — 1767.
GONZALEZ M C — 8136.
GONZALEZ M I — 9681.
GONZALEZ-ROMERO V — 4904.
GOOCH J W — 4462, 9572.
GOOD R J — 2938, 3757, 6163.
GOODEN R — 597.
GOODFIELD M J D — 2074.
GOODMAN I — 4022.
GOODRICH CO — Section 08: 3153P. Section 18: 1580P, 4932P. Section 22: 174P. Section 46: 5073P. Section 64: 8527P. Section 80: 612P.
GOODWILL D — 8749.
GOODWIN J W — 759, 3619.
GOODYEAR TIRE & RUBBER CO — Section 08: 4000P. Section 18: 2429P, 9108P, 9109P. Section 22: 2476P, 6508P. Section 64: 5998P.
GOOGAN C G — 744.
GOPPEL M — 9809.
GORANSSON B — 3731.
GORBACHEVA M M — 7370.
GORDON A — 4632.
GORDON B (III) — 163.
GORDON J — 487.
GORDON J W — 4856.
GORDON M H — 1942.
GORDON M J — 6920.
GORE & ASSOCIATES INC — 3827P, 3828P, 9523P.
GORE & CO GMBH — 2700P.
GORECKI G — 4266, 5873.
GORECKI J — 9774.
GORELOV V V — 3478.
GORELOV YU P — 8060.
GORES F — 4043.
GORING W — 2667.
GORODETZKY A E — 4298.
GORRIE C — 9420.
GORYACHEVA G K — 107.
GOSA K — 7308.
GOSDEN R G — 1556.
GOSHO GALVANIC GUAR — 1863P.
GOSTEVA L I — 6066.
GOTO K — 5647.
GOTO T — 3792.
GOTRO J T — 6977, 6988.
GOTTSCHALK J — 8327.
GOUASMI A — 4912, 5263.
GOUDZWAARD M P — 4529.
GOULD A N — 9414.
GOURRIEL M — 9681.
GOVERNMENT STATISTICAL SERVICE — Section 82: 4691, 4692, 5506, 5507, 6268, 7844. Section 88: 4780.
GOYDAN R — 2964, 7719.
GOZDAN W J — 8966.
GOZZELINO G — 2130, 3799.
GRABEK P — 5401.
GRABOVAC I — 5044.
GRACE & CO — Section 18: 131P, 3258P, 4073P. Section 22: 4110P, 5754P. Section 36: 5789P. Section 54: 2701P. Section 56: 1814P, 2738P. Section 80: 4652P, 4653P, 9864P.
GRACE J C — 9358.
GRADIN P — 1891.
GRADL R J — 5095.
GRADY J — 6179.
GRADY M C — 2389.
GRAEBEL W P — 3630.
GRAEFEN H — 8401.
GRAESSLEY W W — 1896.
GRAFE F — 9436.
GRAFOCHEM LTD — 5999P.
GRAHAM J C — 9421.
GRAHAM J D — 5300.
GRAHAM M J — 9682.
GRAHMANN E — 5096.
GRAMMER L C — 9775.
GRAND A F — 1273.
GRANICK S — 7720.
GRANT B C — 2876.
GRANT C — 412, 6759.
GRANT S — 2313.
GRAPHIC ARTS TECHNICAL FOUNDATION — 5495, 6247.
GRASS W — 3959.
GRASSO G — 5216.
GRATE J W — 3693.
GRAVANIS G — 8604.
GRAY G W — 8043.
GRAY L S — 5419.
GRAY M — 2075.
GRAY P P — 4143.
GRAY T — 2075.
GRAYBEAL J D — 1239.
GRAYSTONE J A — 2512.
GRAZIOSI M — 1898.
GREANEY J P — 6440.
GREAT BRITAIN (GOVERNMENT OF) — Section 87: 711, 712, 713, 714, 1391, 1392, 1393, 3927, 3928, 4758, 4759, 4760, 5583, 7203, 8858, 8859, 8860, 8861, 9975, 9976, 9977, 9978, 9979.
GREEK B F — 9924.
GREEN D J — 2963.
GREEN J — 6334.
GREENE J A — 2109.
GREENE R M E — 8068.
GREENWALT C G — 3285.
GREENZWEIG J — 365.
GREGUS I — 6088.
GREHLINGER M — 1189.
GREIDANUS P J — 1892.
GREIG A — 4736.
GREIG R — 5357.
GRELINGER M A — 5353.
GREMMO E — 6852.
GRENIER-LOUSTALOT M F — 6073.
GRENOBLE M E — 7808.
GRENTZER T H — 6449.
GRIESER F — 2025, 6128.
GRIESSER H J — 9050, 9169.
GRIFFIN A C — 281.
GRIFFIN R B — 5908.
GRIFFITH J R — 8505.
GRIFFITH K A — 2299.
GRIFFITHS A J — 7052.
GRIFFITHS H — 4596.
GRIFFITHS J — 7952.
GRIFFITHS J B — 8958.
GRIFFITHS L G — 4633.
GRIGOR'EV V YU — 2019, 7385.
GRIGORAS S — 1635.
GRIMSRUD E P — 1219.
GRISAFI S — 8664, 8665.
GRISHIN O O — 7707.
GRITSKOVA I A — 8048.
GROELE R J — 6978.
GROENEVELD B — 4732.
GROOT R C — 5140.
GROSBARD G — 9593P.
GROSCH W — 6394, 7985.
GROSECLOSE R G — 362.
GROSHART E — 581, 1272, 1757, 5141, 7721.
GROSJEAN R — 5276.
GROSS A — 841, 2390, 4210.
GROSSE-RUYKEN H — 4119.

GROSSIORD J L — 1893.
GROSSMAN D M — 5142.
GROSSMAN N — 3553.
GROWCOCK F B — 9422.
GRUBBS R H — 2376.
GRUMBLES T G — 7019.
GRUNOW A — 7075.
GRUNTZ U — 7664.
GRUZDEV YU A — 7248P.
GTE PRODUCTS CORP — 5790P.
GUAITA M — 6969.
GUARD H E — 7573.
GUARINI G G T — 2915.
GUAY J — 8506.
GUBERAN E — 4584.
GUDEHUS F — 5198.
GUDER H — 2549.
GUEFROUDJ N — 5263.
GUENTHER D — 5097.
GUERRA G — 3206.
GUERRA G D — 3171.
GUEZENNEC J — 5917.
GUGLIOTTA L M — 1943.
GUGUMUS F — 5909.
GUILANDOUST M T — 1026.
GUILLAUME J L — 104.
GUILLEMIN M — 4570.
GUILLEMIN M P — 1944.
GUILLET J — 1447, 3620.
GUILLET J E — 1945, 9706.
GUILLOT J — 104, 1240, 3621.
GUINEAU B — 5286.
GUIOCHON G — 4493, 4494, 7670.
GUMMOW R A — 7529.
GUNATILLAKE P — 7358.
GUNDERMANN H — 5299.
GUNDERSON E C — 1946.
GUNDERSON J J — 1947.
GUNNERHOLM P — 7204.
GUNTER M E — 8666.
GUNTHER P — 108.
GUOT M — 5528.
GUPTA A — 7722.
GUPTA B D — 2300, 6699.
GUPTA D — 3952.
GUPTA D V — 9423.
GUPTA R K — 4463.
GUPTA S C — 1657.
GURKA D F — 1207, 9683.
GURNY R — 4535, 9059P.
GURTOVAYA M B — 7309.
GURUVIAH S — Section 49: 6658. Section 53: 1769, 6700, 6704, 6711, 9424, 9465.
GUSEV V B — 7228.
GUST J — 5143, 5144, 9425.
GUTFINGER C — 5393.
GUTH H — 7985.
GUTHRIE D H — 7992.
GUTHRIE K — 7416.
GUTHRIE W G — 3511.
GUTTENPLAN J D — 8394.
GUVEN O — 7730.
GUYOT A — 3172.
GUZAIROVA A A — 4830P.
GUZELIAN P — 2076.
GUZMAN J — 5662.

H

HAACK L P — 7414.
HAAGEN H — 2657, 4547, 6701.
HAARER D — 4120.
HACHISU S — 3730, 4545.
HACKER N P — 1291, 2988, 9831.
HADAD D K — 511.
HADDEN P G — 1770.
HADDEN S G — 8712.
HADEN DRYSYS INTERNATIONAL LTD — 2978P.
HADJIANDREOU P — 4912, 5263.
HADJICHRISTIDIS N — 8592.
HADJOUDJ A — 6864.
HADLINGTON S — 7787.
HADZIIOANNOU G — 1253, 8582.
HAERTEL V — 1246.
HAEUSLER K G — 6118.
HAFLIDSON W O — 8708.
HAFNER O — 219.
HAGELE G — 9687.
HAGEMAN H J — 1287, 3793, 3800.
HAGIOPOL C — 4898.
HAGIWARA T — 2450.
HAGLID K G — 7774.
HAGMAR L — 5362, 7020.
HAGNAUER G L — 512.
HAGSTADIUS S — 7021.
HAHN S F — 5681.
HAIDAR B — 187.
HAINES D — 2301.
HAINES J — 1948.
HAINES R E — 6688.
HAIR D W — 6865.
HAIR M L — 8291.
HAJAIEJ A — 5420.
HAJAS J — 2539.
HAJEK J — 8328.
HAKEN J K — 1208, 9684.
HAKKARAINEN T — 6702.
HAKUTO CHEMICAL CO — 5166P.
HALDANKAR G S — 9685.
HALE A — 6866.
HALL H K (JR) — 2282, 8135.
HALL I H — 1949.
HALL J E — 5317.
HALL R H — 5421.
HALL R M — 7605.
HALLBRUCKER A — 539.
HALLENSLEBEN M L — 4953.
HALLER H S — 1269.
HALLGREN C — 7674.
HALMO F — 3667.
HALPAAP R — 2448.
HALPERN G — 5978P.
HAMADA K — 6492.
HAMADA S — 6370.
HAMAGUCHI H-O — 4501.
HAMASAKI T — 8593.
HAMED G R — 6867.
HAMELA D — 8420.
HAMELIN P — 3720.
HAMID S H — 3668.
HAMIELEC A E — Section 13: 2371. Section 17: 6450. Section 19: 1599. Section 67: 1903. Section 69: 1992, 5287.
HAMILTON C J — 2338.
HAMILTON J — 2986.
HAMILTON S — 5217.
HAMMAD Y Y — 3768, 4622, 4623.
HAMMAKER R M — 7665, 8622.
HAMMON T — 3669.
HAMMOND E G — 37.
HAMMOND E W — 1950.
HAMMOND F H — 8587.
HAMMOND T — 1951.
HAMMOND W B — 8044.
HAN X-M — 8157.
HANCOCK A P — 6206.
HANCOCK B C — 7428.
HANCOCK D O — 3670.
HANCOCK J R — 9359.
HAND H M — 7699.
HANDFORTH V — 3571.
HANDYSIDE T M — 8395.
HANEY M A — 1952.
HANRAHAN B D — 2391, 5422.
HANSEN E S — 5363, 7022.
HANSEN K — 2722.
HANSEN M E — 6914.
HANSEN P E — 8631.
HANSFELD F — 1065.
HANSSON E — 2951.
HANSSON T — 2951.
HANSUEBSAI A — 3732.
HANTSCHKE B — 5318.

HANUS F — 9686.
HAOUAM A — 9749.
HAQUE E — 816.
HARAHAP N — 9684.
HARASHINA H — 2129.
HARBILL MANUFACTURING CO — 7375P.
HARBIN D — 1227.
HARDING T — 7932.
HARDISTY C A — 4596.
HARDON R G — 3471.
HARDY J K — 8641.
HARE C — 3334.
HARE C H — Section 13: 7297. Section 31: 4989, 6535. Section 53: 5145, 6687, 9426. Section 71: 6133.
HAREUX D — 4267.
HARFIELD J G — 3733, 3734, 3735.
HARGARTER E — 366.
HARGREAVES J S — 3801.
HARING E — 9832.
HARINGTON C — 4866.
HARLACHER U — 7023.
HARLOW CHEMICAL CO — 6592P.
HARMAN M — 8720.
HARNBY N — 6979.
HARPER W B — 8396.
HARRINGTON P B — 3671.
HARRINGTON P DE B — 6915.
HARRIOTT M — 9672.
HARRIS J M — 4495.
HARRIS K E — 2952.
HARRIS M M — 2953.
HARRIS N — 7053, 7666.
HARRIS P J — 8154.
HARRIS R F — 5700.
HARRIS R K — 519, 2860, 9687.
HARRIS S H — 6440.
HARRIS S T — 7403.
HARRISON K W — 989.
HARRISON P — 1771.
HARRISON R M — 1225.
HARRISON R W — 842.
HART A C — 3960, 7953.
HARTMAN M — 4605.
HARTNER K C — 4495.
HARTWICK R A — 6892.
HARTZELL G E — 1273.
HARUTA Y — 2897.
HARUYAMA S — 351, 388.
HARVEY B — 7220.
HARVEY R D — 4496, 5668.
HASEGAWA K — 9643.
HASEGAWA M — 2129, 2990, 3802, 6916.
HASEGAWA R — 8713.
HASEGAWA S — 5615.
HASHIMOTO K — 2814, 8125.
HASSAGER O — 1888.
HASSELL D C — 3672.
HASSUN S K — 8667.
HASTINGS M R — 7933.
HATA H — 4598.
HATA T — 2917.
HATANO Y — 9649.
HATZAKIS M — 1285, 4634.
HAU L-B — 38.
HAUB H-G — 2861.
HAUBENNESTEL K — 2489.
HAUPT S — 7667.
HAUSEN B M — 7788, 8714.
HAUSER H — 8351.
HAUSER P — 8568.
HAVINGA E E — 4121.
HAWKINS A E — 6979.
HAWKINS B L — 1195.
HAWKINS N C — 5364.
HAWKSWORTH D L — 5941.
HAWTHORNE D G — 9427.
HAWTHORNE S B — 4497.
HAYAKAWA GUM CO — 7391P.
HAYASAHI S — 843.
HAYASE S — 9170.
HAYASHI K — 8702.
HAYASHI S — 3230, 3624.
HAYFIELD P C S — 7530.
HAYHURST J — 6917.
HAYNES G S — 3472.
HAYNES R D — 8599.
HAYS T — 8448.
HAYWOOD INTERNATIONAL CO — 7612P.
HAZELHOFF R W — 9776.
HE F — 7024.
HE X W — 5663.
HEACKER F K — 1060.
HEAD R — 3803.
HEAD R A — 5423.
HEALTH AND SAFETY COMMISSION — Section 73: 561, 8715. Section 87: 1394, 1395, 1396, 2225, 2226, 3081, 3929, 4761, 5584, 7205.
HEALTH AND SAFETY COMMISSION (ASBESTOS MANUFACTURING INDUSTRY WORKING GROUP) — 6182.
HEALTH AND SAFETY EXECUTIVE — Section 55: 5181, 6760, 7571, 7572, 8449, 8450, 9512, 9513. Section 73: 562, 7025, 7757. Section 87: 1397, 2227, 3081, 3930, 3931, 4762, 4763, 4764, 7206, 7915, 9980. Section 88: 9998. Section 99: 4799.
HEALY T W — 6128.
HEANEY H J — 8956.
HEARN G — 7026.
HEARN G L — 7723.
HEARN J — 3736.
HEARN M J — 1953.
HEATLEY F — 1954.
HEATON R B — 9360.
HEBER H — 451, 5973, 8045.
HECHT M — 2631.
HECK H D'A — 6183.
HECK W — 2632.
HECKMAN R A — 790.
HEDENSTERNA G — 2048.
HEDENSTIERNA C — 6168.
HEDIGER H — 2808.
HEDRICK J L — 187.
HEEDERIK D — 7581.
HEFFER P — 3918.
HEGEDUS C R — 2918, 5146, 9468.
HEGEDUS R D — 1209.
HEIJMAN S G J — 2919.
HEILA E — 488.
HEIMLER D — 4498.
HEIN M D — 5660.
HEINONEN O P — 2968.
HEINRICH U-R — 6984.
HEINZ R E — 525.
HEINZE R E — 3009P.
HEISE M S — 4045.
HEITBRINK W A — 4616.
HELALY F M — 836.
HELARY G — 4099.
HELLER J P — 5763.
HELLQUIST H — 2070.
HELLSTERN A M — 4046.
HEM S L — 1242.
HEMINGWAY R W — 9516.
HEMMELRATH M — 1185.
HEMSLEY D — 1955.
HEMSLEY J D C — 8832.
HEMSLEY S — 8833.
HEND R W — 569.
HENDERSON M C — 7453.
HENDRA P — 1210.
HENDRA P J — 8616.
HENDRICK D J — 2077.
HENG F L — 2636.
HENKEL CORP — 6565P, 8214P.
HENKEL KGAA — Section 08: 66P, 67P, 807P, 808P, 6420P, 8023P. Section 22: 6509P. Section 30: 9188P, 9189P. Section 36: 1664P. Section 38: 981P. Section 50: 2644P, 4286P, 8359P, 8360P. Section 64: 461P.
HENNING F A — 415.
HENNING K — 8079.
HENRY C — 5098.
HENRY F — 3717, 5319.

HENSEL R — 6069.
HENTSCHEL K H — 8080.
HERBERTS GMBH — Section 36: 4185P, 4186P, 6566P. Section 64: 3585P, 4430P, 6821P.
HERCULES D M — 2902, 6918, 6919.
HERCULES INC — Section 06: 1495P. Section 16: 98P, 4902P. Section 18: 4074P, 4075P, 5725P. Section 62: 6796P.
HERGET W F — 5302, 9726.
HERGETH W D — 6933.
HERGETH W-D — 5664.
HERMANN W — 8588.
HERMIA J — 2621.
HERNANDEZ P K — 6995.
HERNANDEZ TORRES M A — 3658.
HERNBERG S — 3769.
HEROLD H — 8086.
HERRERA L — 6074.
HERRERO C R — 2875.
HERRICK R F — 9688.
HERRMANN D — 7661.
HERRMANN P — 367.
HERTLER W R — 4047.
HERTZ C D — 8623.
HERTZ J — 2324.
HERTZBERG R W — 2828.
HERVE-BAZIN B — 7758.
HERZ J E — 5663.
HERZOG C — 4033.
HESS E — 1504, 1505, 6408, 8013.
HESS J L — 9332.
HESTER R D — 1956.
HETEROORG COMPOUNDS INSTITUTE — 5052P.
HETU D — 7716.
HEUBACH GMBH & CO KG — 8984P.
HEUBLEIN B — 5701, 5702, 5703.
HEUBLEIN G — 4048, 5701, 5702, 5703.
HEURET M — 5320.
HEWITT P J — 8862.
HEWLETT-PACKARD CO — 9295P.
HEY D — 3441.
HEYER J — 309.
HEYKANTS J J P — 6204.
HEYWARD I P — 595.
HEZEL U B — 513.
HI-TEK POLYMERS INC — 2508P, 9146P.
HIBINO H — 8569.
HICKMAN A D — 8250.
HICKNER R A — 2392.
HICKS R — 8716.
HIEFTJE G M — 3678, 3679, 3680.
HIERTNER M — 3694.
HIGASHI N — 4024.
HIGASHIMURA T — Section 15: 5678. Section 17: 2393, 7311, 9087. Section 19: 159. Section 23: 5764.
HIGASHITANI K — 2551.
HIGGINS B G — 535.
HIGGINS C L — 2513.
HIGGINS G L — 9428.
HIGGINS J J — 8251.
HIGO M — 9737.
HIKIDA H — 2897.
HILBORN J — 1296, 6212, 8760.
HILDEBRAND D F — 6902.
HILDEMANN L M — 6075.
HILDITCH E A — 413, 8451.
HILL A — 694.
HILL E — 3673.
HILL E C — 1448, 5946.
HILL G C — 5946.
HILL L A — 3608.
HILL L W — 1608, 5910, 8589, 9642.
HILL R M — 8668.
HILL S — 3674.
HILL S M — 8590.
HILSON B O — 4475.
HILTI AG — 8104P.
HIMICS R J — 8181.
HIMURO S — 7700.
HINDENLANG D M — 1957.
HINE C H — 550.
HINES A — 6645.
HINTERMANN H E — 8601.
HINTERWALDNER R — 72, 5987.
HINTON A J — 3770.
HINTON B R — 9429.
HIOKI T — 7724.
HIRAGURI Y — 91, 4049.
HIRAHARU T — 6038.
HIRAI T — 3230.
HIRANO J — 9724.
HIROHATA T — 8593.
HIRONO KAGAKU KOGYO — 3380P, 5191P.
HIRSCHLER M — 6184.
HIRST D J — 5146.
HIRST J — 8198, 8199.
HIRVONEN J K — 6650.
HITACHI CABLE LTD — 6225P, 6822P.
HITACHI CHEMICAL CO — Section 06: 5642P. Section 18: 132P, 4076P, 8105P, 9110P. Section 22: 2477P, 5755P, 9147P. Section 24: 2497P, 2498P, 2499P, 2500P. Section 38: 9247P. Section 40: 269P, 6593P, 8271P, 9264P. Section 42: 4231P, 7434P, 9296P, 9297P. Section 46: 285P. Section 54: 1075P, 2702P, 3491P. Section 58: 429P, 2743P, 4370P, 4371P, 9534P. Section 62: 1842P, 6797P, 9554P. Section 64: 2781P, 4431P, 6823P, 6824P. Section 80: 613P, 614P, 2150P, 2151P, 2152P, 3007P, 3829P, 3830P, 4654P, 5469P, 5470P, 5471P, 5472P, 5473P, 5474P, 6226P, 7096P, 7097P, 7816P, 8777P, 8778P, 8779P, 8780P, 9865P.
HITACHI CO — 7817P.
HITACHI LTD — Section 18: 2430P. Section 22: 3301P, 4111P. Section 38: 256P, 982P. Section 46: 2612P. Section 58: 2744P, 8478P. Section 64: 1864P, 2782P. Section 80: 615P, 616P, 2153P, 5475P, 7818P, 8781P, 8782P, 8783P.
HITACHI MAXELL LTD — 5842P.
HITCHINS B — 3572.
HIZAL G — 6431.
HJERTBERG T — 5874, 6037, 6043.
HLAVACKOVA E — 8624.
HM INSPECTORATE OF POLLUTION — 5585.
HO J S-Y — 5288.
HO J-S — 6145.
HO P S — 3952.
HOAGLAND D A — 514.
HOBACK J T — 1132.
HOBBS C H — 4564.
HOCH K — 8635.
HODD K — 3231.
HODD K A — 3661.
HODGE P — 3276, 6438.
HODGSON J M — 4585.
HODGSON P — 7231.
HODOGAYA CHEMICAL INDUSTRY CO — 868P.
HOECHST AG — Section 02: 8985P. Section 06: 50P. Section 18: 133P, 134P, 4077P. Section 22: 905P, 6510P, 9148P. Section 36: 236P. Section 42: 4232P. Section 44: 6610P. Section 54: 1790P. Section 56: 3535P, 6764P. Section 62: 5206P. Section 64: 6825P, 7613P. Section 80: 3831P, 7098P, 8784P, 8785P, 8786P.
HOECHST CELANESE CORP — Section 06: 4861P, 7265P. Section 18: 1581P, 1582P. Section 22: 7348P, 7349P, 8142P. Section 52: 9393P. Section 76: 7060P. Section 80: 7099P, 8785P, 8786P, 8787P, 9866P, 9867P.
HOEFLAAK M — 2763, 6642.
HOFER D C — 187.
HOFER M — 4548.
HOFFMAN A S — 1731.
HOFFMANN D P — 6919.
HOFFMANN H — 7736.
HOFFMANN J — 5508.
HOFLAND A — 220.
HOFLER H — 6158.
HOFMEISTER F — 2813.
HOGEN-ESCH T E — 4099.
HOGG R — 2622.
HOHL F — 54.
HOHLEIN P — 218, 941, 5779.
HOHMANN G — 2633.
HOKKAIDO — 9488P.
HOKKAIDO ANICO CO — 5233P.
HOKKO CHEMICAL INDUSTRY CO — 4831P.
HOKUETSU PAPER MILLS — 2553P.

HOLCOMBE J A — 3672, 3677.
HOLDER A — 6076.
HOLDING S R — 3099.
HOLFORD T R — 6179.
HOLL Y — 8607.
HOLLAND D M — 7789.
HOLLKAMP D — 7481.
HOLMAN R L — 7428.
HOLMBERG B — 2086.
HOLMES-FARLEY S R — 1247.
HOLMQUIST B — 2088.
HOLMSTROEM M — 2969.
HOLMSTROM M — 2078.
HOLNESS D L — 3771, 4586.
HOLT P — 2079.
HOLT P F — 733.
HOLTEN-ANDERSEN J — 1248.
HOLTZEN D A — 2809.
HOLTZSCHERER C — 1249.
HOLUBKA J W — 503, 7414, 7415.
HOLZAPFEL H — 1809.
HOMAN E R — 2955.
HOME OFFICE — 4765, 9981.
HOMOELLE J B — 6792.
HOMOLA A — 8586.
HON D N-S — 9810.
HONDA H — 3173.
HONDA MOTOR CO — Section 54: 4339P, 5167P, 8435P, 8436P. Section 64: 6000P, 9594P.
HONE D — 538.
HONE J — 9689.
HONEY CHEMICAL INDUSTRIES CO — 422P, 5017P, 7335P, 9380P.
HONG H L — 4587.
HONIGS D E — 3644, 3645.
HONMA T — 1958, 9134.
HONSHU PAPER MANUFACTURING CO — 9555P.
HOOGENDIJK E M G — 4597.
HOOGERBEETS J G — 5616, 7725.
HOOISMA J — 4597.
HOONTRAKUL P — 6868.
HOOVER J F — 4401.
HOOVER R N — 2959.
HOPFINGER A J — 1250.
HOPKE P K — 2867.
HOPKEN J — 1262.
HOPKINS J — 9777.
HOPPE M — 7404.
HOPTON J W — 1448.
HORAK O — 3548.
HORALEK J — 3138.
HORI H — 376, 4499.
HORIBA Y — 1211.
HORIE C — 921.
HORIE C V — 3098, 9187.
HORIE I — 4917.
HORIE K — 6991.
HORIGUCHI R — 9170.
HORIKOSHI K — 5182.
HORKAY F — 2550, 2907.
HORKY J — 4513.
HORN L P — 4226.
HORN R G — 1251.
HORN S — 1741P, 1742P.
HORNBY M R — 8669.
HORNG T-Y — 5904.
HORTA A — 7726.
HOSGOOD H D — 8429P.
HOSHINO N — 46.
HOSOGAI K — 1462.
HOSSAIN M A — 7668.
HOUGHTON D — 3073.
HOUGHTON D R — 3953.
HOULIHAN F M — 597.
HOUSTON W E — 80.
HOVERLING V — 992.
HOWARD A G — 6068.
HOWARD J — 2182, 9676.
HOWAT D D — 292.
HOWELL B A — 8700.
HOWELL D — 7405.
HOWELL D M — 8812.
HOWER H E — 8397.
HOWGATE P G — 1891.
HOWSE D — 357.
HOYA CORP — 6826P.
HOYLE C E — 887, 2991, 2992, 7069.
HSIEH K H — 6426.
HSIU M-T — 2953.
HSIUE G-H — 3232.
HSU C — 8016.
HSU J-P — 7628.
HSU S L — 1959.
HSU T J — 81.
HU A T — 5809.
HU C-Y — 8157.
HU H-P — 5660.
HU J — 6125.
HUA Y-H — 4021.
HUANG J — 9083.
HUANG R Y M — 6147.
HUANG S J — 4359, 9251.
HUANG W — 9738.
HUANG W-K — 3232.
HUANG X — 6920.
HUANG X Y — 1235.
HUBBARD T F — 8452.
HUBER H — 2810.
HUBER H F — 5810, 9833.
HUBER O — 9739.
HUCK C — 5974.
HUCKERBY T N — 1557, 3221, 3653, 9074.
HUCKESTEIN B — 8755.
HUDSON C — 7429.
HUDSON S M — 8037.
HUELS CHEMISCHE WERKE — 4203P, 4862P.
HUESTIS D L — 6937.
HUGHES AIRCRAFT CO — 3008P, 4131P, 4162P, 7266P.
HUGHES D — 7911.
HUGHES J F — 6134.
HUGHES P — 4766.
HUGHES R — 6098.
HUGHSON G W — 2975.
HUGLIN M B — 9740.
HUGO W B — 3512.
HUISMAN H F — 2933.
HULL A V — 7566.
HULL G — 4235.
HULLCOOP R S — 5988, 6646, 7482.
HULME B E — 2208.
HULT A — 99, 1292, 6629.
HUME J — 7027.
HUMMEL D O — 10003.
HUMPHRIES M R — 5289.
HUNGERFORD J M — 7656.
HUNSTON D L — 5311.
HUNT B J — 507, 3099, 8058.
HUNT MARKETING RESEARCH — 2183.
HUNT S M — 515.
HUNTER C A — 6759.
HUNTER D — Section 81: 2179. Section 82: 7843, 9917. Section 84: 695, 7184, 7901, 7902, 9949.
HUNTER DOUGLAS INDUSTRIES BV — 2783P, 2784P.
HUNTRE D — 696.
HUNTSBERGER J R — 6869.
HUNTSMAN J R — 5256.
HUR T — 2828.
HURE P — 715, 7916.
HUSAIN S R — 6395.
HUSEMANN K — 8327.
HUSSAM A — 7713.
HUSTINGS A M L — 2920.
HUTCHINSON G H — 8290.
HUTCHINSON J M — 7727.
HUTTENES-ALBERTUS CHEMISCHE WERKE GMBH — 4001P.
HUTTON M — 2119.
HYDE K D — 5947.
HYNDS J E — 328P.
HYSELL J P — 8625.

I

IACOVIELLO J G — 3348.
IBAR J P — 6980.
IBEMESI J A — 9644.
IBIDAPO T A — 5665.
IBM CORP — 2578P, 3400P, 9228P.
IBRAHIM A M — 6490.
ICHIKAWA Y — 2703P.
ICHIMURA K — 7000.
ICI AMERICAS INC — Section 06: 7267P. Section 22: 4965P, 9149P. Section 36: 9229P, 9230P. Section 60: 1111P.
ICI AUSTRALIA OPERATIONS PROPRIETARY LTD — 6577P.
ICI PAINTS DIVISION — 8825.
IDEMITSU KOSAN CO — 24P, 4078P.
IDEMITSU PETROCHEMICAL CO — Section 08: 4878P. Section 18: 8106P, 8107P, 9111P, 9112P. Section 24: 928P. Section 40: 2579P, 2580P, 4221P, 8272P, 9265P, 9266P. Section 44: 5843P. Section 60: 2747P. Section 62: 5979P. Section 64: 4432P. Section 80: 6227P.
IDESES R — 9008.
IGEL K-H — 697, 6318.
IGIC L — 414.
IGNATOV V A — 9435.
IGNATOV V N — 3233.
IHARA CHEMICAL CO — 1100P, 8462P.
IHARA E — 7275.
IHARA H — 7275.
IHARA T — 3106.
IIDA T — 5647.
IIJIMA T — 3234.
IIMURE T — 5424.
IITAKA Y — 2129.
IIZAWA T — 3286, 8159.
IJSSELING F P — 5911.
IKEDA K — 6409.
IKEDA M — 2080, 3613.
IKEDA S — 1463, 3738.
IKEDA T — 8081.
IKEDA TOKA KOGYO CO — 1005P.
IKEGAMI K — 5733.
IKOMA S — 9012.
IL'DARKHANOVA F I — 9573.
ILAVSKY M — 6870.
ILLINOIS TOOL WORKS INC — 1696P.
ILLNER H M — 5951.
IMAI K — 105.
IMAI Y — 164, 3296, 6501, 9089.
IMANISHI Y — 2339.
IMBAULT J — 3609.
IMBRIANI M — 2081, 2961, 4581.
IMBUS H R — 1274.
IMMIRZI B — 5682.
IMPERIAL CHEMICAL INDUSTRIES — Section 02: 3117P, 4832P, 5627P. Section 08: 809P, 3154P. Section 18: 869P. Section 20: 4952P, 6488P. Section 36: 5018P, 6567P, 6568P, 6569P. Section 52: 3458P. Section 54: 1791P, 4340P. Section 56: 2739P, 5955P. Section 64: 4433P. Section 80: 8788P.
IMPERIAL WALLCOVERINGS INC — 6001P.
INA SEITO CO — 9298P, 9595P, 9596P.
INAGAKI K — 1561.
INAGAKI N — 5704.
INATA H — 1293.
INDUSTRIES DES PEINTURES ASSOCIEES — 6570P.
INDUSTRIESCHAU-VERLAGSGESELLSCHAFT MBH — 3100.
INFANTE R N — 3675.
INGENIEUR L — 310.
INGLEBY A J — 2723.
INOUE A — 5182.
INOUE K — 7359.
INOUE O — 2954, 4500, 7669, 9690.
INOUE S — 2340, 2514.
INOUE T — 4635, 7319.
INSKIP M J — 2119.
INSTITUT NATIONAL DE RECHERCHE ET DE SECURITE — Section 73: 2082, 2083, 2084, 2085, 4588, 4589, 4590, 4591, 7759, 7760. Section 75: 4617. Section 87: 716, 7917.
INSTITUTION OF CIVIL ENGINEERS — 3954.
INTEREZ INC — 3259P, 3302P, 4933P, 6511P.
INTERNATIONAL AIR TRANSPORT ASSOCIATION — 5586.
INTERNATIONAL DATA CORP — 5509.
INTERNATIONAL ENERGY AGENCY — 4794.
INTERNATIONAL FLYING COLOURS INC — 7505P.
INTERNATIONAL STANDARDS ORGANISATION — 7924.
INTERNATIONAL TRANSLATIONS CENTRE — 729.
INUBUSHI S — 106, 8081.
IOLAB CORP — 810P, 5653P.
IONESCU-HOMORICEANU S — 2728, 7576, 7577.
IPPOSHA YUSHI KOGYO CO — 8024P.
IRIARTE M — 9741.
IRIBARREN J I — 9741.
IRIE KOKEN CO — 5207P.
IRIKAWA H — 760.
IRIYAMA Y — 3194.
IRIZARRY R — 221.
IRKHIN V I — 4618.
IRUIN J J — 9741.
IRVINE M — 1810.
IRZHAK V I — 8638.
IS'EMIN R L — 4268.
ISA S O — 8667.
ISE N — 5321.
ISENHOUR T L — 3671.
ISHIDA H — 6448.
ISHIGAKI I — 7333, 8059.
ISHIHARA PHARMACEUTICAL CO — 1743P, 2704P.
ISHIHARA SANGYO KAISHA — 3118P, 9597P.
ISHIHARA YAKUHIN CO — 6747P.
ISHII D — 5290.
ISHII K — 817.
ISHII S — 8002.
ISHIKAWA N — 4598.
ISHIKAWA T — 7310, 7685, 9757.
ISHIKURA S — 817.
ISHIZU K — 6151, 8670.
ISKANDARANI Z — 5300.
ISMAILOVA L A — 7360.
ISOBE N — 4913.
ISODA Y — 9724.
ISONO Y — 4895.
ISRAELACHVILI J — 8586.
ISRAELACHVILI J N — 1251, 6135.
ISSARI B — 6425.
ITALBONDER SPA — 7100P.
ITAMI T — 9771.
ITO K — 92, 2404, 5321.
ITO SEIYU CO — 9150P, 9489P.
ITOH M — 1186.
ITOH T — 4101.
IU K-K — 838.
IVANENKO I B — 7531.
IVANO I B — 3726.
IVANOV A V — 107, 521.
IVANOV G A — 7483.
IVANOV V B — 5648, 6483.
IVANOVA L F — 8118.
IVERSEN T — 7993.
IWAKI M — 7728.
IWAKI T — 3236.
IWAKURA H — 2680.
IWAMOTO H — 4858.
IWAMURA G — 8189.
IWANOW J — 4320, 5147.
IWASAKI I — 3418.
IWATA H — 3442.
IWATA K — 4501.
IWATA M — 4954.
IWATSUKI S — 4101.
IYOTA H — 8671.
IZHTYAZHBUMMASH HEA — 8361P.
IZIDINOV S O — 7360.

J

JACHMANN J — 5402.
JACKEL K-P — 4636.
JACKSON A P — 4464.
JACKSON R — 3443.
JACKSON R F — 311, 7484.
JACKSON S M — 3513.
JACOBASCH H-J — 6981, 6998, 8672.
JACOBI M M — 7640.
JACOBS D — 3625.
JACOBS G — 563.
JACOBS H C — 9778.
JACOBS H H — 990.
JACOBUS J — 1598.
JACQMIN M — 7639.
JAEHN A H — 1252.
JAGANNATH J H — 1776.
JAGER J — 4050.
JAGISCH F C — 8251.
JAHN H — 516.
JAKES J — 6160.
JAKOBSEN I — 2086.
JALKIAN R D — 2862.
JAMES D J — 9792.
JAMESON C W — 1227.
JAMIESON A M — 2892.
JAMSA S — 6202.
JANARDHAN R — 2017.
JANCZUK B — 4549, 6982, 8673.
JANG J W — 3418.
JANNER G — 8863.
JANSEN L G J — 3800.
JANSSEN W — 5738.
JANSSENS E — 6921.
JANSSON K — 4253.
JANTAS R — 4955.
JAPAN ATOMIC ENERGY RESEARCH INSTITUTE — 6228P.
JAPAN EXLAN CO — 1834P.
JAPAN M & C TRADING CO — 2273P.
JAPAN SYNTHETIC RUBBER CO — Section 02: 3119P. Section 18: 9113P. Section 34: 5777P. Section 36: 955P, 3351P, 4187P, 4188P. Section 40: 3381P, 7424P, 8273P, 9267P. Section 54: 5935P, 8437P. Section 62: 3559P, 4405P, 4406P, 5208P, 5980P, 5981P, 5982P, 8493P, 8494P, 8495P, 9556P. Section 64: 462P, 1148P, 1149P, 6002P, 7614P, 9598P. Section 80: 1310P, 1311P, 2154P, 3832P, 8789P, 9868P, 9869P.
JAPANESE INDUSTRIAL STANDARDS COMMITTEE — Section 88: 1441, 1442, 1443, 1444, 1445, 3089, 3945, 3946, 4781, 4782, 4783, 7925.
JASPERSE J L — 2863.
JASSE B — 6077.
JAVNI I — 5747.
JAYAPERUMAL D — 6647.
JEANDRAU J P — 8252.
JEDRZEJCZAK K — 6912.
JEHL L J — 1232.
JENG Y H — 1253.
JENISCH H C — 4699.
JENKINS A D — 1529, 3004, 6434, 6491.
JENKINS R D — 6871.
JENNINGS J W (JR) — 1254.
JENNINGS L — 3804.
JENSEN H M — 7785.
JENSEN K F — 839.
JENSEN S — 8714.
JENTZSCH R — 6067.
JEROME R — 2394.
JEWITT T S — 9187.
JEYARATNAM J — 4571.
JHON M S — 4550.
JI C — 761.
JI H — 538.
JIANG M — 5291.
JIANG Y-Y — 8157.
JIM WALTER RESEARCH CORP — 9151P.
JIMENEZ PUJADAS R — 5797.
JING Z — 6922.
JINGHONG C — 4061.
JINNO K — 7662.
JIRACKOVA-AUDOUIN L — 2300.
JIRCITANO A — 46.
JIRMAN J — 8631.
JITIAN S — 7729.
JOANNY J-F — 1894.
JOCHEM C — 5309.
JOHANNSEN I — 5739.
JOHANSEN R — 7064.
JOHANSON G — 5365.
JOHARI G P — 539.
JOHN R C — 4308.
JOHN S M — 7808.
JOHN W — 7749.
JOHNSEN M — 7028, 7029.
JOHNSON & SON INC — 3260P, 8986P, 9114P, 9115P.
JOHNSON A F — 1556.
JOHNSON D K — 8038.
JOHNSON E — 7234.
JOHNSON G — 6923.
JOHNSON J — 7054.
JOHNSON J B — 383, 384, 385.
JOHNSON J F — 9251.
JOHNSON J H — 312.
JOHNSON K — 9918.
JOHNSON K A — 2947.
JOHNSON M A — 3805, 5425, 8761.
JOHNSON R A — 6398.
JOHNSON R N — 2540.
JOHNSON S D — 368.
JOHNSTON A M — 2975.
JOINT COMMITTEE ON STATUTORY INSTRUMENTS — 4767.
JOKINEN A — 7122, 9950.
JOL A — 2120.
JOLLY A — 7588.
JOLLY A C — 452, 5844, 8314.
JOLY A M — 2515, 2668, 5269, 9742.
JONAI H — 7761.
JONASSON S — 6136.
JONES A D — 2975.
JONES C K — 9746.
JONES D — 1830, 3573, 7533.
JONES D A — 9430.
JONES D G — 3473, 7532.
JONES D M — 9640.
JONES E B G — 3513, 3529, 5947.
JONES E G — 6924.
JONES F N — Section 11: 8046. Section 17: 2386, 2414, 4040, 4908. Section 67: 9642.
JONES G — 9361.
JONES G C — 9692.
JONES H K — 6925.
JONES H P — 8834.
JONES H R — 1986.
JONES J D — 8507.
JONES M B — 3209.
JONES P B — 2764.
JONES P L — 6079.
JONES R E — 6185.
JONES R G — 4633.
JONES R W — 6926.
JONES S — 9951, 9952.
JONES W R — 882.
JONGENEELEN F J — 3772.
JONNALAGADDA S B — 1228.
JONSEN P — 8626.
JONSSON J A — 4502.
JOOS B — 4037.
JORDAN D — 2633.
JORDAN E — 4973.
JORDAN T D — 8343.
JORDE C — 6998, 7694.
JORGENSEN K A — 7258.
JOSEPH D D — 546.
JOSEPH R — 1530.
JOSHI G P — 2866.
JOSHI J B — 3741.
JOSHI J R — 120.
JOSHI S — 2283.
JOSHI V G — 1133.

JOTISCHKY H — 3074, 3919, 6269, 6270, 7845.
JOU T W — 9440.
JOUDREY J W — 8017.
JOULE J A — 10004.
JOURDAN C — 3621.
JOYCE T W — 8729.
JOYNER D J — 2877.
JU L — 6163.
JU-NIANG X — 4211.
JUERGENS E — 8080.
JUFFERMANS J P H — 4997.
JUGRAN B P — 5264.
JULIAN J M — 2127.
JULLIEN H — 5450.
JUN Q B — 1296.
JUNG M E — 2284.
JUNGHANNS H — 253.
JUNKOSHA CO — 5823P.
JUNTUNEN J — 7762.
JURANICOVA V — 6441, 6442.
JUREK M A — 5948.
JURS P C — 3693, 8637.

K

KAAINOA S A — 4551.
KABANOV V A — 5710.
KACSIR J M — 9656.
KADLAS P — 3107.
KADOWAKI A — 9012.
KAERIYAMA K — 6492, 9174.
KAIHARA M — 6078.
KAILANI M H — 1257.
KAIN R M — 3476.
KAIRAITIS A J — 9431.
KAISER W-D — 3474.
KAKABADSE G J — 1960.
KAKEN KOGYO CO — 2651P, 5396P.
KAKIMOTO M-A — 164, 3296, 6501, 9089.
KAKIUCHI H — 1566, 3234.
KAKU M — 202.
KALAUS E E — 7386.
KALAVSKA D — 1212, 9691.
KALE D D — 1895.
KALE V — 888.
KALEEM K — 5740.
KALEWICZ Z — 10P.
KALF G F — 2087.
KALFOGLOU N K — 4552.
KALI-CHEMIE AG — 1496P.
KALLENDORF C J — 5426.
KALLITHRAKAS-KONTOS N — 5845.
KALLITSIS J K — 4552.
KALMAN D A — 4620.
KALNINS M A — 1255.
KALZ G — 2921.
KAMATA S — 9737.
KAMATH V R — 794.
KAMEL A — 5319.
KAMENKOVITCH V V — 583.
KAMIDE K — 1961.
KAMINSKI M — 5143, 5144.
KAMISHIMA CHEMICAL INDUSTRY CO — 25P.
KAMIYA K — 3108, 5839.
KAMMER H W — 8676.
KAMOGAWA H — 4857.
KAMPF H — 9743.
KAMPFF E — 2889.
KAMUSEWITZ H — 5332.
KAN M — 8645.
KANAE TORYO CO — 8463P.
KANAKARAJAN K — 8126.
KANATZIDIS M G — 8047.
KANBARA S — 6703.
KANDA Y — 1027, 2616.
KANDEL E — 8711.
KANEBO CO — 3536P, 3833P, 9152P.
KANEBO NSC CO — 4189P.
KANEGAFUCHI CHEMICAL INDUSTRY CO — Section 12: 4020P. Section 18: 3261P, 3262P, 4079P, 8108P. Section 24: 929P, 2501P, 4132P, 9178P. Section 34: 213P, 4163P, 6540P, 9206P. Section 58: 4372P. Section 62: 7596P. Section 64: 3586P, 8528P.
KANEMITSU H — 1312P.
KANENO K — 4472.
KANG C H — 2018.
KANGUR KH F — 8974.
KANKO T — 9755.
KANNEWURF C R — 8047.
KANSAI PAINT CO — Section 02: 780P, 781P, 4833P, 7971P, 7972P. Section 08: 1514P, 5654P. Section 12: 2366P. Section 18: 9116P. Section 20: 7336P. Section 24: 4133P. Section 32: 8187P, 8188P. Section 34: 5002P, 5778P, 6541P, 9207P, 9208P, 9209P. Section 36: 237P, 238P, 956P, 957P, 958P, 959P, 960P, 1665P, 1666P, 2554P, 2555P, 2556P, 2557P, 4190P, 4191P, 5019P, 5020P, 5021P, 5791P, 5792P, 6571P, 7392P, 7393P, 8215P, 8216P, 8217P, 9231P, 9232P. Section 38: 983P. Section 50: 329P, 1744P, 3452P, 4287P, 5125P, 5126P, 7506P. Section 54: 1792P, 1793P, 1794P, 4341P, 9490P, 9491P, 9492P. Section 56: 4366P, 6765P. Section 62: 5209P. Section 64: 463P, 464P, 465P, 1150P, 1151P, 1865P, 1866P, 1867P, 1868P, 2785P, 2786P, 4434P, 4435P, 5234P, 5235P, 8529P, 9599P, 9600P, 9601P. Section 68: 8609P. Section 80: 617P, 1313P, 3834P, 3835P, 8790P, 8791P, 8792P.
KANSY H — 4953.
KANTEROV V YA — 9573.
KANTEROVA T I — 9243.
KANTO KAGAKU CO — 6229P, 7101P, 7102P.
KANZAKI PAPER MANUFACTURING CO — 1120P, 2599P, 5064P.
KAO CORP — Section 02: 26P. Section 12: 1545P. Section 18: 3263P, 4934P. Section 80: 9870P, 9871P, 9872P.
KAO SOAP CO — 3120P.
KAPELLE R — 2821.
KAPTAN Y — 7730.
KAR G — 5223.
KARADZOV A — 4852.
KARAGANDINSKII POLYTECHNIC — 1823P, 5187P.
KARAHADIAN C — 8999.
KARAISKAKIS G — 7645.
KARASIKOV N — 3737, 8674.
KARASZ F E — 82, 5325, 8632, 8675.
KARATEEV A M — 8084.
KARCH C — 9432.
KARIS T E — 4553.
KARIYAZONO Y — 2770.
KARLSSON S — 409.
KARNIK A B — 8967.
KARPAS Z — 6927.
KARPEL S — 717.
KARPOWICZ A — 7731.
KARPUKHINA G V — 8591.
KARUNASENA A — 2541.
KARVAS M — 9024.
KARVE A — 1037.
KASAEV K S — 9326P.
KASAI P H — 9662.
KASBEKAR A D — 6079.
KASCHEMEKAT J — 8726.
KASHIMA KOGYO CO — 1583P, 1584P.
KASIMOVA G S — 9243.
KASPEROWSKI M — 9953.
KASTIEN H — 1256, 5649.
KASUYA S — 8702.
KASZAS G — 7077.
KATHERINE R A — 9982.
KATIME I A — 1962.
KATO C — 4501.
KATO M — 2261.
KATO S — 4.
KATO Y — 3311.
KATRITZKY A R — 3287, 6493.
KATSARAVA R D — 8127.
KATSUYAMA Y — 7070.
KATTI A — 7670.
KATZ T J — 8158.
KATZENBERGER C — 1255.
KATZIR A — 2894.

KAUFMAN J M — 573.
KAUFMAN M — 5427.
KAUFMAN YA A — 7485.
KAUL A — 5910.
KAUNASSKII POLYTECHNIC — 1281P.
KAVERINSKAYA A A — 7371.
KAVERINSKII V S — 1649.
KAWADA T — 4503.
KAWAGUCHI T — 7076.
KAWAHARA H — 3111.
KAWAKAMI TORYO CO — 1869P, 6003P, 6798P.
KAWAKAMI Y — 2362, 2411.
KAWASAKI H — 9771.
KAWASAKI ROZAI CO — 7615P.
KAWASAKI STEEL CO — Section 40: 6594P. Section 50: 1043P, 1745P, 2645P, 6667P. Section 54: 397P, 398P, 1076P, 1795P, 4342P, 4343P. Section 64: 1152P, 1153P, 1154P.
KAWASHIMA Y — 6137.
KAWATETSU KOHAN CO — 1077P.
KAWATO J — 5647.
KAWAZUMI H — 2864.
KAY G B — 4990.
KAY J — 8344, 8345, 8346, 8347, 8845.
KAY M-J — 7259.
KAYAKU NOURY CO — 135P.
KAZ'MINA R Z — 7641.
KAZAKHSKII CHEM TECH INST — 4834P.
KAZANSKII KIROV CHEM TECH — 9316P.
KAZANTZIS G — 564.
KEANE J R — 2965.
KEARNEY S — 5218.
KEATING M Y — 1904.
KEHLEN H — 3712.
KEHLER H — 2824.
KEIFER J R — 4525.
KEIFER S — 489.
KEITH L H — 565.
KELLEHER K — 206.
KELLER A — 8069, 8579.
KELLER D A — 6183.
KELLER T M — 1609.
KELLEY J — 1095.
KELLEY K A — 7071.
KELLNER D — 2669.
KELLNER R — 6928.
KELLSTADT C E — 7507P.
KELLY A — 7486.
KELLY'S DIRECTORIES — 734, 735, 4795.
KELUSKY E C — 118.
KEMMERER R R — 5406, 5428.
KEMNETZ S J — 2829.
KEMP G J — 4596.
KEMPFERT K D — 5292.
KEMSLEY D — 9954.
KEN-KOAT INC — 6668P.
KENDALL CO — 5936P.
KENDALL D N — 8627.
KENDIG M — 9433, 9434.
KENDRICK T C — 3312.
KENES M — 8253.
KENIG S — 3623, 5050, 6159.
KENNEDY E R — 1963.
KENNEDY G L — 4504, 9780.
KENNEDY J P — 837, 2372, 7077.
KENNEDY R J — 1213.
KENNEDY S J — 9692.
KENT G D — 313.
KENT K — 9602P.
KEOUGH A H — 5429.
KERLE E J — 6449.
KERN J A — 6371.
KERN M — 8950.
KERNER K — 3773.
KERR S R — 5430.
KERR-MCGEE CHEMICAL CORP — 5628P.
KERSHAW J R — 5732.
KERSTING H — 2865.
KESHAVAYYA J — 8611.
KETKAR S N — 4505.
KETTENIS J J — 8398.
KETTLE M — 5127P.
KETTLE M E G — 330P, 331P.
KETZ R J (JR) — 1896.
KEUL H — 1559.
KEVER Y Y — 6929.
KEY NOTE PUBLICATIONS — 2242.
KEYAN L D — 7802.
KEYMAN J M — 369, 2670.
KHALAFALLA A K — 7955.
KHALIL Z — 4916.
KHAN I M — 915, 4099.
KHANNA A — 9051.
KHANNA D N — 7080.
KHARAEV A M — 8082.
KHARBADE B V — 2866.
KHARCHENKO A V — 7499.
KHARE A S — 3741.
KHARITONOVA G S — 4518.
KHARKOV POLYTECHNIC — 7326P, 8305P.
KHOKHLOVA N A — 9573.
KHOO C — 5744.
KHOO N Y — 5390.
KHOSHDEL E — 3276.
KHROMOV S M — 7493.
KIESCHE E S — 5510, 7150, 7903, 9905, 9955.
KIEV PRINTING PROBLEMS — 8294P.
KILBURN K — 9779.
KILIC S — 912.
KILJANSKI T — 5265.
KIM D — 2867.
KIM H — 6930.
KIM H J — 1964.
KIM J — 7638.
KIM K S — 7638.
KIM K-J — 93, 4899.
KIM S — 6802, 8405.
KIM U B — 8037.
KIM U-Y — 188.
KIM Y H — 4029, 7638.
KIM Y-H — 188.
KIMURA T — 7070.
KIMURA Y — 4122.
KINE B B — 796.
KING C J — 2619, 2620.
KING D R — 3578.
KING G A — 2671.
KING INDUSTRIES INC — 4164P.
KING T A — 1965.
KINNEY L A — 9780.
KINNING D J — 4894.
KINNUNEN E — 7762.
KINSMAN K R — 5975.
KINYOSHA CO — 466P.
KIPARISSIDES C — 830.
KIRBY K W — 4396.
KIRCHMAYR R — 7232, 7954.
KIRGIZ ACADEMY OF SCIENCE ORG CHEM — 5192P.
KIRICHENKO P N — 7707.
KIRJAVAINEN V M — 3740.
KIRK H D — 2947.
KIRK J D — 3692.
KIRKHAM P J — 8508.
KIRKLAND C — 1113.
KIRKLAND J J — 4506, 5275.
KIRKPATRICK E L — 370.
KIRKWOOD D — 6727.
KIROV POLYTECHNIC — 5629P, 6471P, 7973P.
KIRSCH A J — 4956, 5741, 6494, 8128.
KISHI R — 7763.
KITAGAWA KAKO CO — 2756P, 2757P.
KITAMI CO — 239P.
KITAMURA T — 4857.
KITAO T — 3113, 4122, 7963.
KITAYAMA M — 4269.
KITAYAMA S — 7076.
KITAZAKI Y — 2917.
KITCHLOO S — 5156.
KITTO A-M N — 1225.
KIVISTO A — 6202.
KIVSH Z I — 5976.

KIWI J — 7236.
KIYOTSUKURI T — 921.
KJELLSTRAND P — 2088.
KLAVETTER F L — 2376.
KLEE J — 9541.
KLEIN A — 2332, 2381, 6935.
KLEIN D — 1771.
KLEIN J A — 1266.
KLEIN M G — 5875.
KLEIN M K — 9811.
KLEIN M T — 850.
KLEINERT B — 6410.
KLEINFELDEN J — 2787P.
KLEMCHUK P P — 1506, 6411.
KLEMPNER — 3283.
KLEMPNER D — 5668.
KLEPAC J — 8730.
KLIM N I — 8050.
KLINE C H — 8731, 9812.
KLINE H H — 450.
KLINE J E — 6080.
KLINKE E — 2521.
KLINZING G E — 3421.
KLOBUKOWSKA C — 371.
KLONNE D R — 2955, 5366.
KLOOSTERBOER J G — 2993, 3806.
KLOSTERMANN K — 8676.
KLOSTERMANN P — 108.
KLUSACEK K — 3427.
KLUSMAN R W — 7680.
KLUSMEIER W — 9542.
KMINEK I — 9171.
KNAPCZYK J W — 5705.
KNAPP A G A C — 5369.
KNAUB P — 189.
KNAUSS C J — 9744.
KNAUSS W G — 5042.
KNELLER P E — 5293.
KNEPPER T — 9057.
KNOOPS B — 9782.
KNOP A — 3235.
KNOPP H — 9677.
KNOTHE G — 895, 8968.
KNOWLES M — 7671.
KNOY E C — 9362.
KOATSU GAS INDUSTRY CO — 997P, 8274P.
KOBAYASHI H — 8076.
KOBAYASHI S — 202, 4051, 9077.
KOBAYASHI T — 3738.
KOBE STEEL CO — 2705P, 3492P, 4436P, 6004P, 9493P.
KOBERSTEIN J T — 8699.
KOBUS J — 9218.
KOBUSSEN A G C — 5912.
KOCH E — 698.
KOCH G H — 1772.
KOCHI M — 6916.
KOCKEN J — 6921.
KODAIRA T — 889.
KOEHLER M — 4867, 9834.
KOEHLER M G — 1250.
KOEI CHEMICAL INDUSTRY CO — 1121P, 3987P, 4966P.
KOENIG J L — 2898.
KOENIG R — 8083.
KOENRAADT M A A M — 847.
KOGLER J — 5257.
KOHJIN CO — 6230P.
KOHLMAN S D — 9324.
KOHN E — 1966.
KOHNO K — 8658.
KOISHI M — 3173.
KOIZUMI A — 7030.
KOJIMA K — 7311.
KOJIMA T — 3739.
KOJIMA Y — 8628.
KOKANDO CO — 9873P.
KOKORUDZ J S — 3288.
KOL'TSOVA L S — 2303.
KOLANKOWA H — 9341, 9342, 9343.
KOLB K W — 8362P.
KOLEV S D — 1214.
KOLINSKI A — 8697.
KOLLBACH J — 3782.
KOLLEK H — 841, 2390, 2672, 4210.
KOLLMORGEN CORP — 1155P, 1156P, 1870P.
KOLMODIN-HEDMAN B — 2048.
KOLOKOL'TS I G — 8151.
KOLYCHECK E G — 4473.
KOLYER J M — 8394.
KOMATSU A — 3230.
KOMM ORE-METAL INST — 9603P.
KOMORA L — 8001.
KOMORI A — 5337.
KOMORI S — 5077.
KOMPASS PUBLISHERS — 1449, 6364, 6365.
KONAK C — 6160.
KONASEWICH D E — 415.
KONDEKAR N R — 5781.
KONDO S — 2285, 9757.
KONDRASHOVA N V — 4309.
KONDUKOV N B — 4268.
KONIASHVILI S A — 9520.
KONICA CORP — 4835P.
KONIG T — 7277.
KONIG W — 5257.
KONING P A — 2571.
KONINGSVELD R — 1967.
KONISHI CO — 8109P.
KONISHIROKU PHOTO INDUSTRY CO — 2600P, 3155P, 4655P, 7103P, 8793P.
KONNO K — 8189.
KONO H — 6942.
KONRADI A J — 7990.
KONZELMANN R — 4547.
KOPINSKI R — 2673.
KOPP L — 5900, 5901.
KOPTEVA ZH P — 9514.
KOPYTINA T D — 9009.
KORAIEM A I M — 7955.
KORDOMENOS P I — 2364.
KORN M — 2922.
KORNEEV V I — 7383.
KOROBOV Y — 9645.
KOROLEVA V R — 7312.
KOROS W J — 7738.
KORPELA M — 5367.
KORSHAK V V — 3174, 3175, 3176.
KORSHUNOVA T P — 9435.
KORTVELYES I — 2184.
KORYUKIN V M — 8605.
KOSAIN KOGYO CO — 399P.
KOSCIELECKA A — 6495.
KOSCZ W H — 8248.
KOSEINO JUSHI SHIN — 4437P.
KOSKENVUO — 7762.
KOSNIK F J — 4868, 9835.
KOSOWER E M — 2894.
KOSTER T P M — 2254.
KOSTOVSKAYA E N — 8972.
KOSTYLEV V A — 2019, 7385.
KOTB A R — 3638.
KOTO KOGYO CO — 6619P.
KOTZEV D L — 2837.
KOTZEV D-L — 265.
KOTZEVA L — 5706.
KOUNO Y — 116.
KOURTI T — 6138, 6450.
KOUTSOLELOS P G — 1611.
KOVACIC P — 3209.
KOVAL' E Z — 2724.
KOVERDA A P — 7249P.
KOWALSKI B R — 3681.
KOWGIRD A — 9343.
KOYAMA H — 4503.
KOYAMA S — 7551.
KOYAMA T — 5719.
KOYO SANGYO CO — 1697P.
KOZA V — 8328.
KOZHEVNIKOV N V — 3983.
KOZINA S I — 7318.
KOZLOV A A — 2690, 4416.
KOZLOVA L A — 7493.

KOZLOWSKI A — 3480.
KOZLOWSKI K — 5910, 8589.
KOZLOWSKI O — 3444.
KRADJEL C — 526, 1987.
KRAMER H-J — 5567.
KRASIL'NIKOVA M F — 8969.
KRASILOVSKII L N — 7801.
KRASNOBAEVA V S — 7672.
KRASOVITSKII B M — 3955.
KRASOVSKII A N — 1968.
KRASSER W — 8629.
KRASTEV I — 5107.
KRATKY O — 6983.
KRATOCHVIL P — 5285.
KRAUSE A — 9078.
KRAUSE-HERINGER H — 8509.
KRAUSS H — 2811.
KRAUSS M — 3737, 8674.
KRAUT A — 4592.
KRAWIEC R M — 6084, 8254.
KRAWIEC S L — 5431.
KREIS R W — 2830.
KREITUS A E — 6060.
KREJCAR E — 3138.
KREJCI W — 314.
KREMER W — 2395, 8200.
KREMERS C H — 8152.
KREMMINGER P — 2999, 9843.
KRESS A O — 1636, 5707.
KRESSE P — 5148.
KRESSLER J — 8676.
KREWINKEL H W — 5099, 6648.
KRICHELDORF H R — 1560, 1610, 2451, 5708.
KRIEGER R — 8255.
KRINSKI T L — 4393.
KRISHNAMURTHY S — 2964.
KRISHNAMURTI N — 1692, 4216, 7420, 7998.
KRISHNAN S M — 6704.
KRITZER R M — 2617.
KROEKEL H — 8966.
KROL P — 8399.
KRONER H — 1533.
KRONOS TITAN GMBH — 7061P, 7062P.
KRONSTEIN M — 3676.
KROUSE S A — 9069.
KRUGER G — 4052.
KRUGER R-P — 1969, 4490.
KRUITHOF K J H — 2937.
KRUSKA G — 5913.
KRUTZEL L — 9253.
KRYLOVA V V — 9693.
KRYSZTAFKIEWICZ A — 6372.
KU P L — 109.
KUBAN V — 3659.
KUBATOVA H — 2725.
KUBISA P — 2399, 2400.
KUBITZA W — 1851, 7378.
KUBO I — 2734.
KUBO K — 532.
KUBO M — 4917.
KUBOKAWA Y — 5704.
KUBOTA E — 2020.
KUBOTA H — 6213.
KUBOTA LTD — 6620P, 6621P.
KUCERA V — 8400.
KUCHEV V M — 7764.
KUDO Y — 6370.
KUDRNA V — 8328.
KUGORE H — 1135.
KUHN A T — 736.
KUJAWA-PENCZEK B — 6498.
KUKACKA L E — 322.
KUKKALA P K — 9421.
KUKS YU M — 7230.
KUL'CHITSKII V I — 6954.
KULAKOWSKI B T — 9646.
KULESHOVA I D — 1732.
KULICKE W-M — 2824.
KULIK T A — 5824P.
KULLDORFF S — 5573.
KULLE T J — 2963.
KUMANOTANI J — 2314.
KUMAR A — 9051.
KUMAR G K — 8154.
KUMAR S — 2717, 9540.
KUMAR V — 5264.
KUMLER P L — 1257.
KUMPF R J — 163.
KUNIMINE KOGYO CO — 6421P.
KUNIN A M — 2019, 7385.
KUNJAPPU J T — 5323.
KUNST M — 6705.
KUNZ G — 1041.
KUNZ M — 6984.
KUNZELMANN U — 9436.
KUNZI H — 7918.
KUNZMANN G — 9743.
KUO C — 6931.
KUO C-Y — 1970.
KUPPUSAMY V — 9515.
KURAMOTO N — 3236.
KURARAY CO — Section 06: 3143P. Section 18: 1585P, 2431P, 2432P, 5726P, 6472P, 9117P. Section 22: 6512P. Section 24: 4134P. Section 40: 1698P. Section 62: 443P, 9557P. Section 64: 2788P.
KURASAWA KOHGAKU CO — 8315P.
KURAUCHI Y — 6932.
KURFEES D B — 3072.
KURGANOVA M N — 6496.
KURIYAMA A — 9844.
KURJATA J — 184.
KURNIAWAN A S — 6139.
KURODA H — 7303.
KURODA S-I — 9130.
KUROKAWA M — 8085.
KURON D — 8401.
KURPIEWSKI T — 3009P.
KURSK POLY — 6116P.
KURUMADA T — 7278.
KURUPPU K D A — 3296.
KUSAHARA M — 4998.
KUSHCH P P — 8084.
KUSNIERIK O — 4310.
KUSTER T A — 4325.
KUWABARA T — 7070.
KUZAEV A I — 8084.
KUZBASS POLYTECHNIC — 782P.
KUZMENKA D J — 7720.
KUZNETSOV E N — 5255.
KUZNETSOV V A — 1649.
KUZNETSOV YU I — 9437.
KUZNETZOV YU I — 4298.
KUZNIECOW J I — 5147.
KUZUB V S — 4315.
KUZUHARA H — 4954.
KWAK J — 1238, 4480.
KWIATEK J F — 3370.
KWIATKOWSKI L — 3444, 3480.
KWON S — 4117.
KYOWA CHEMICAL INDUSTRY CO — 2706P, 3974P, 5168P.
KYOWA GAS CHEMICAL INDUSTRY CO — 8496P, 9017P.
KYRANOS J N — 6081, 9694.

L

L'OREAL — 6005P.
LAAPAS H R — 3740.
LABADIE J W — 5742.
LABANA S S — 3095.
LABARE M P — 7416.
LABES M — 5854.
LABETSKAYA M V — 9246.
LABINSKAYA N V — 9244.
LABLACHE-COMBIER A — 185, 5420.
LABOFINA SA — 3537P, 3538P.
LACABANNE C — 3746.
LACAZE P C — 4897, 7356.
LACEY I N — 1134.
LACHINOV M B — 5710.
LACKEY R O — 6735.

LACQUER PAINT IND — 9336P.
LADEN P J — 7233.
LADSTADTER E — 1897.
LAEGSGAARD E — 9661.
LAFAYE A — 3713.
LAFORME W — 8344, 8345, 8346, 8347, 8845.
LAGERBERG S — 6706.
LAGOS F A — 9064.
LAGUNA O — 5964, 6780.
LAHALIH S — 8143P.
LAI C-X — 6707.
LAI Y-H — 6860.
LAIBLE R — 440, 9574.
LAIDLAW B — 5100.
LAINE R M — 8163.
LAING D K — 6113.
LAIRD G — 2823.
LAKDAWLA Z A — 1895.
LAKE D L — 7534.
LAKE R T — 5101.
LAKE T P — 844.
LAKS P E — 9516.
LAKSHMINARAYANA G — 6397.
LAKSO J-E — 6037.
LALEQ M — 2923.
LALI A M — 3741.
LAM K S — 1926.
LAM P K H — 2452.
LAM T-H — 564.
LAMBERT P — 3471.
LAMBLA M — 8607.
LAMM F P — 4417.
LAMOT J E — 9438.
LAMPE J — 3444.
LAMPE K — 6708.
LAMPELA P — 5617.
LANCASTER R I — 7216.
LANDALUCE ELVIRA J — 3932.
LANDAU A — 9291.
LANDAU M — 2298.
LANDGRAF H — 9439.
LANDIS J K — 2868.
LANDOLL L M — 9647.
LANDWIRT L — 6872.
LANE T H — 1635.
LANG J M — 3664.
LANGE J — 6933.
LANGELAND-KNUDSEN J — 4802.
LANGHORST M L — 7673.
LANGIN O S — 9874P.
LANNEN W J — 2634.
LANSER A C — 517.
LANTMAN C W — 1531.
LANTOS P R — 6283.
LANTOV V M — 8630.
LAOUT J C — 2515, 2668, 5269.
LAPASIN R — 1898, 2831.
LAPCIK L — 6655.
LAPIN S C — 5432.
LAPKO A — 8453.
LAPKOWSKI M — 9048.
LARGE TYRE RES INST — 3382P.
LARIONOV O G — 4534.
LARIVE D E — 5262.
LARSEN F — 2089.
LARSEN W A — 8561.
LARSON M B — 575.
LASCHEWSKY A — 598.
LASKAWY G — 6394.
LASZEWSKA Z — 1284.
LASZLO-HEDVIG Z — 7002.
LATELLA A — 4869.
LATH D — 3165.
LATIF A J — 8048.
LATOUR M — 4507.
LATUKHIN D V — 6985.
LATVIAN ACADEMY OF SCIENCE WOOD CHEM — 9190P, 9524P.
LAU C H — 3661.
LAU P — 6706, 6709.
LAUB R J — 1971.
LAUGHLIN R B — 7573.
LAUNDON R D — 750.
LAURIENZO P — 5682.
LAUSBERG D — 797.
LAUTIE A — 9663.
LAUWERYS R — 9782.
LAVELLE J S — 1187.
LAVIELLE L — 3632.
LAWSON A — 5388.
LAWSON D W — 3619.
LAWSON K M — 1068.
LAXEN D P H — 2976.
LAYMAN P L — 9956, 9957.
LAZARENKO M A — 7360.
LAZINSKI R — 9086.
LAZORKO L — 7234.
LAZOVENKO A N — 9435.
LAZZARINI L — 5574.
LE BOT J Y — 315.
LE LIGNEE Y — 2021.
LE NEST J F — 5258.
LE X — 1919.
LEACH G D H — 8716.
LEACH R H — 3396.
LEADBEATER C — 2209.
LEADER CO — 6827P, 9604P.
LEANDERSON P — 9781.
LEATHERS R R — 39.
LEBEDEV S YU — 7764.
LEBEDEV V P — 7593.
LEBEZ J — 4914.
LEBRUN J J — 3313.
LECLERC B — 1893.
LECLERCQ P A — 8635.
LEDERER K — 2413.
LEDGER W — 1972.
LEDWITH A — 602.
LEE A — 1899.
LEE C H — 5266, 9079.
LEE D I — 4397.
LEE G H — 2305.
LEE H C — 3366.
LEE H H — 8402.
LEE J L — 5697.
LEE J S — 1271.
LEE K P — 3780.
LEE K-J — 5743.
LEE K-W — 156, 4465.
LEE L J — 81, 1234, 1568, 7320.
LEE L-H — 1258, 4212, 4796.
LEE M — 9695.
LEE O A — 6454.
LEE R F — 6203.
LEE R L (JR) — 490.
LEE S A — 987.
LEE T S — 3951.
LEE W M — 1926.
LEE W S — 4915.
LEE W-K — 7459.
LEE Y-D — 5809.
LEENE W — 9776.
LEEVES N J — 786.
LEFEBVRE A H — 4797.
LEFEBVRE D R — 4554, 4555, 4565.
LEFEVRE D — 2515.
LEFF D V — 3658.
LEFLEY R K — 1157P.
LEGEAY G — 1558, 2330.
LEGHISSA P — 2100.
LEHMANN E — 3933.
LEHMANN R — 5879.
LEHRLE R S — 1951, 3669.
LEIBLER L — 5675.
LEIDHEISER H (JR) — 372, 505, 8646.
LEIPOLD D P — 2299.
LEIRA H L — 2089.
LEKAN S F — 316.
LEKKERKERKER H N W — 6453.
LEMAIRE J — 4916, 9128, 9129.
LEMAITRE J — 8661.
LEMAITRE L — 5914.

LEMASTERS G K — 4593.
LEMESHEVA I YA — 7765.
LEMMING M B — 9466.
LEMOINE L — 6736.
LENGEMEIER K — 5198.
LENINGRAD BASIC CHEM IN — 7974P.
LENINGRAD CELL-PAPER INST — 9558P.
LENINGRAD LENSOVET TECH — 332P.
LENINGRAD PIGMENT ASSOCIATION — 9233P.
LENINGRAD PIGMENT IND — 1473P.
LENINGRAD PIGMENT PRODUCTION — 6388P, 7975P.
LENINGRAD PIGMENT RESEARCH — 1667P, 5022P, 7559P.
LENINGRAD PIGMENT TRUST — 27P.
LENINGRAD PLEKHANOV MINE — 8987P.
LENNHOLM H — 7993.
LENNON J — 7151.
LENZ R W — 82, 3164.
LENZOTTI J R — 3183.
LEONARD D R — 2385.
LEONG M — 1215.
LEONTOVITCH E V — 4618.
LEPOUTRE P — 3626, 6038, 8485.
LEPPANEN T — 5259.
LEPPAVUORI S — 2342.
LERCHE W — 1733.
LERNER N R — 9756.
LEROY V — 2686.
LESLIE HUBBLE LTD — 6855.
LESSLER M A — 2956.
LESTER J N — 3650, 3651.
LETCHFORD B R — 2765.
LETERRIER Y — 3627.
LETZ R — 7010.
LEUNG H-W — 1279, 9813.
LEUTE U — 6644.
LEV O — 4480.
LEVENE L — 6873.
LEVIN G M — 3210.
LEVIN J-O — 7674.
LEVINE S — 9696.
LEVINE S P — 5301, 5302, 6934, 9725, 9726.
LEVINSON S B — 5876.
LEVY G C — 1931, 7675.
LEWIN D R — 3419.
LEWIS A — 4381.
LEWIS D A — 8458.
LEWIS G — 844, 6082.
LEWIS J A — 2726.
LEWIS J C — 5219.
LEWIS K — 7629.
LEWIS K G — 3573.
LEWIS P A — 5618.
LEWIS R G — 3784, 4516.
LEWIS R J — 742.
LEX K — 2811.
LEYON R E — 3677.
LI BASSI G — 2128, 8759.
LI G-L — 976.
LI M Y — 1294.
LI S — 3666.
LI S F Y — 7676.
LI S R — 2842.
LI T — 9836.
LI-SHI Y — 6934.
LIAKUMOVICH A G — 5683.
LIANG H — 3132.
LIANG W — 4899.
LIAS S G — 6083.
LIAW D-J — 5709.
LIBERTI G — 5870.
LICHTENBELT J W T — 8517.
LICINA G J — 9416.
LIE C Y — 1296.
LIEBMAN S A — 1233.
LIEBSCHER H — 317, 6809.
LIEKMEIER W — 6896.
LIENING G — 2674.
LIIRA J — 2090, 5368.
LIJTEN G F C M — 2993.
LIM K-T — 852.
LIN C H — 3211, 4030.
LIN L T — 3644, 3645.
LIN L-L — 5709.
LIN Q-S — 8064.
LIN S — 8405.
LIN W M — 9440.
LIN W-C — 2490.
LIND B — 7677.
LIND J T — 3610.
LINDEMUTH M — 5220.
LINDGREN K I — 1780.
LINDGREN M — 7021.
LINDGREN P F — 4508.
LINDNER E — 3514.
LINDNER J S — 8592.
LINDSAY FINISHES INC — 2558P.
LINDSAY R C — 8999.
LING Y-C — 4509.
LINNE M A — 6935.
LION CORP — Section 36: 961P, 4192P, 5023P, 5024P, 5025P, 7394P. Section 40: 9268P. Section 54: 1078P. Section 64: 4438P, 6006P, 9605P.
LIPATOV YU S — 497, 6874.
LIPETZ L E — 2812.
LIPHARD M — 6986.
LIPINSKA D — 3347.
LIPKIN YA N — 6649.
LIPOLD J — 5511.
LIPSKAYA V A — 9839.
LIPSKI C — 8732.
LISKOWACKI J — 9432.
LISON D — 9782.
LISSI E A — 2135, 2983, 3798, 6211.
LISTERUD J M — 4510.
LITHUANIAN CONS ARCHITECT — 4836P.
LITTLE B F P — 73.
LITTLE B J — 8403.
LITTLE J A — 9441.
LITTLE S R — 9697.
LITTORIN M E — 2091.
LIU B — 1216.
LIU C-Q — 4619.
LIU F J — 3288.
LIU G-Z — 4254.
LIU H-Y — 4053.
LIU K-W — 2254.
LIU Q — 2003.
LIU Q-X — 4398.
LIU Y — 9421.
LIVSEY I — 6987.
LIVSHITS R M — 7254.
LJUNGQVIST J — 3.
LLOYD B — 374.
LLOYD E — 2243.
LLOYD P J — 3735, 3742, 3956.
LLOYD R — 9814.
LLOYD-LUCAS C — 4382.
LO S K T — 7320.
LOADER K — 2067.
LOBKOV V D — 8151.
LOCATELLI C — 2869.
LOCHMANN L — 4054.
LOCHOTA J — 3335.
LOCK J — 2675.
LOCKE J — 6113.
LOCTITE (IRELAND) LTD — 5128P.
LOCTITE CORP — 6527P, 8794P, 9118P.
LODDER R A — 3678, 3679, 3680.
LOEB G — 9442.
LOEB G I — 3516.
LOENING K L — 1529.
LOFGREN L — 5377.
LOH I-H — 6650.
LOH L — 667.
LOHMANN W — 762.
LOMAX L G — 4601.
LOMENEDE B A — 2092.
LOMONOV G A — 8218P.
LONDON CHAMBER OF COMMERCE — 4795.
LONDON HAZARDS CENTRE — 7031.

LONG G L — 6091.
LONG J — 7919.
LONG N J T — 3774.
LONSHCHAKOVA T I — 5683.
LONSINGER S — 1266.
LOO B W — 3743.
LOO J A — 4527.
LOOS W O — 6084.
LOPES O C — 3133.
LOPEZ APARICIO M — 3607.
LOPEZ L C — 1217.
LOPPNOW G T — 482.
LORBER A — 3681.
LORD CORP — 1079P, 5236P, 5825P.
LORENA M — 4581.
LORKOWSKI H J — 5413.
LORKOWSKI K-H — 6482.
LOUCHEUX C — 185, 5420.
LOUGNOT D J — 4637, 4638, 8759, 9830.
LOUMAN H W — 2753.
LOUTZ J-M — 5440.
LOVE D J — 2302.
LOVELL P A — 1900.
LOWE C — 5281, 5282, 5408.
LU P-H — 6650.
LU Z — 1934.
LUB J — 4270, 6085.
LUCAS C — 4900.
LUCCHINI M — 582.
LUCKERT O — 5604.
LUCKEY J A — 6920.
LUCKHAM P F — 4540, 8677.
LUCKI J — 55, 832.
LUCY C A — 4511, 4512.
LUERKENS D W — 5310.
LUKSHINA G N — 8971.
LUKSHINA S N — 7228.
LUNARDINI J M — 9363.
LUNDBERG C V — 1773.
LUNDBERG D J — 2832, 8581.
LUNDBERG R D — 1531.
LUNN G A — 2093.
LUONGO J P — 7419.
LUPINSKI J H — 6995.
LUSE I S — 6060.
LUSHCKEIKIN G A — 3744.
LUST A — 518.
LUSTON J — 7279.
LUTTINEN M — 7427.
LUTZ M A — 7071.
LUTZ P — 6433.
LUTZ P J — 4025.
LUYBEN K C — 5605.
LYALYUSHKO S M — 7574.
LYAPISHEVA T B — 1658.
LYAPUNOVA N N — 9710.
LYARSKY N V — 583.
LYCHKIN I P — 9009.
LYCKA A — 8631.
LYKINS R L — 5887P.
LYKLEMA J — 9745.
LYLE A R — 2022.
LYMAN D J — 3285.
LYNN G A — 2094.
LYNN R A P — 3682.
LYON D — 3420.
LYONS C J — 9052.
LYPKA W — 7756.
LYUBIMOV A V — 2303.

M

M & T CHEMICALS — 618P.
MA S — 818.
MAAN N — 2994.
MACADAM R — 7438.
MACALUSO M — 6175.
MACARTHUR M D — 1398.
MACCALLUM J R — 1978, 4313.
MACCARTHY P — 7680.
MACCREAHAN W A — 1938.
MACDONALD D D — 8414, 9453.
MACGREGOR J F — 2371.
MACGREGOR J R — 6450.
MACHAC I — 4255.
MACHADO J M — 82.
MACHADO M C — 2729.
MACHEMER W — 7575.
MACHEVSKAYA R A — 7493.
MACHTLE W — 1259.
MACIAS A — 6683.
MACIEL G E — 1195.
MACINNES D (JR) — 2455.
MACKERRON C B — 9815, 9985.
MACKEY D E — 2367.
MACKNESS J — 3050.
MACKNIGHT W J — 1531, 2333, 5325, 8632.
MACKOR A — 2254.
MACLAURY R E — 5253.
MACLEOD D I A — 8570.
MACOSKO C W — 6866.
MADALIEV E U — 3744.
MADALIEV SH K — 3744.
MADDOX W P — 5433.
MADEC P-J — 4127.
MADLER M — 1774.
MADRUGA E L — 5662.
MADSEN E — 5964, 6780.
MADSEN P A — 6140.
MAEDA H — 1080P.
MAEDA K — 4028.
MAEDA KOSEN CO — 1871P.
MAEDA S — 373.
MAFFUID P — 7999.
MAGDANZ H — 6067.
MAGGIORE G — 2185.
MAGILL B — 6917.
MAGNAN M — 1359.
MAGNERA T F — 7678.
MAGOS L — 2095.
MAGUIRE G — 1678.
MAHADEVAN V — 4958, 6490, 8091.
MAHGOUB H — 6951.
MAHMOUD A A — 192.
MAHONEY S — 787, 798, 1446.
MAI C — 6427.
MAI P M — 4043.
MAIER B — 7694.
MAIER G — 1612, 6500.
MAIER W — 440, 1038, 2838.
MAISCH R — 2813.
MAISEY J M — 2096.
MAITY N C — 7338.
MAJMUD C — 6211.
MAKAREWICZ E — 9218.
MAKAROV V M — 7790.
MAKARUK L — 9053.
MAKES J — 4513.
MAKINS N S — 2186.
MAKOVAC V — 6802.
MAKSIMOVIC M D — 2542.
MALACZYNSKI G W — 8256.
MALAMA A A — 9517.
MALAVOLTI D O — 4271, 5102, 5103, 6790.
MALAVOLTI M — 5877.
MALAVOLTI M V — 5104.
MALCHER J R — 7454.
MALCOLME-LAWES D J — 1973, 3673, 9333, 9698.
MALDONADO F — 4530.
MALECKI A — 5139.
MALHOTRA B — 2957.
MALIK S — 7986.
MALINCONICO M — 5682.
MALINGE J — 890.
MALISSA H — 6928.
MALLIARIS A — 7288.
MALLINSON R G — 9079.
MALLOUK T E — 8756.
MALONE K G — 916.
MALYUKOVA E B — 8048.
MAMAEVA I A — 7487.
MANARESI P — 3177, 3180, 5699.

MANARSEI P — 3178.
MANAS-ZLOCZOWER I — 2928.
MANDEL F S — 590P.
MANEROV V B — 1649, 7371.
MANFREDINI T — 9648.
MANIVANNAN G — 8129.
MANN C K — 4514.
MANNEL D — 7277.
MANNING M I — 374.
MANO E B — 5696.
MANO M — 5719.
MANOHAR C — 5323.
MANOHARAN S P — 6710.
MANRING L E — 9080.
MANS V — 5964, 6780.
MANSFELD F — Section 53: 1057, 1058, 4311, 8404, 8405, 8406, 9443.
MANSON J A — 2828.
MANTECON A — 6489.
MANTHEY M — 2870.
MANUS P — 5422, 9837.
MANZ A — 6186.
MANZ J — 6186.
MANZONI A — 9364.
MAPP C E — 4594.
MARANGONE D — 9444.
MARAVIEGNA P — 3179.
MARAVIGNA P — 845.
MARCELLUS J E — 2265.
MARCHANT R E — 5744.
MARCHETTI F — 9545.
MARCUS Y — 6141.
MARCY H O — 8047.
MARDON ILLINGWORTH LTD — 592P.
MARECHAL E — 3199, 4010, 4127.
MAREVTSEV V S — 2303.
MARIN G — 4466.
MARINO R — 6791.
MARK H — 3683, 6086.
MARK H F — 2341.
MARK J E — 186, 920, 1638.
MARKERT H — 1297.
MARKHAEVA E E — 5710.
MARKOFSKY S B — 2453.
MARKOWSKI G R — 6075.
MARKS L — 3051.
MARKS M J — 2454.
MAROCHKO L G — 9520.
MARPHATIA R — Section 75: 584, 2121. Section 81: 3032, 3869. Section 84: 1378, 3920.
MARPHATIA R K — 2562, 5149.
MARQUI J — 6651.
MARR I L — 6087.
MARSDEN W L — 4143.
MARSH P — 5529.
MARSHALL A — 1059.
MARSHALL G L — 519, 2871, 2872, 2873.
MARSHALL I A — 3745.
MARSHALL K C — 416.
MARTELL R — 205.
MARTENS M — 563.
MARTENSON I W — 4344P.
MARTIN G C — 4045, 6977, 6988.
MARTIN J — 8407.
MARTIN J W — 7535, 8408, 8409, 8410.
MARTIN M K — 2373.
MARTIN N — 9960.
MARTIN S J — 1244.
MARTIN-LANDA I — 6087.
MARTINDILL M G — 7406.
MARTINEZ F E — 5784.
MARTINEZ M — 2276.
MARTINEZ R J — 7496.
MARTINOVIC D — 6701.
MARTORELLA M — 9958.
MARTUSCELLI E — 5682.
MARTYUSHEVA N I — 8988P.
MARUI TOKIN KOGYO — 4288P.
MARUO CALCIUM CO — 4837P, 5630P.
MARUTHAMUTHU P — 8129.
MARUYAMA H — 110.
MARUYAMA K — 9131.
MARUYAMA Y — 164.
MARUZEN PETROCHEMICAL CO — 1314P, 3988P, 4903P, 9269P.
MARVEL C S — 8070.
MASCHIO G — 4055.
MASCIALE M J — 5150.
MASHIKO K — 2834.
MASIULANIS B — 6497.
MASLAK YU V — 497.
MASLANKIEWICZ E — 9341.
MASLOZHIRPROM RES — 8025P.
MASSIANI Y — 2719.
MASSINES F — 3746.
MASSINGILL J L — 8510.
MASSON J C — 1039.
MASTEN C N — 3033.
MASTERS A J — 2009.
MASUDA E — 9077.
MASUDA T — 47, 159, 5764.
MATEBOER A — 2937.
MATEJKA L — 9081, 9082.
MATEO J L — 4011, 4870, 6157, 8757.
MATEO M P — 2256.
MATEVA R — 5706.
MATHESON A — 3515.
MATHIAS L J — 1636, 5707.
MATHIS C — 2833, 3617, 3628.
MATHOW J — 2924.
MATIJEVIC E — 4811.
MATLOCK M G — 3695.
MATSUBARA T — 4272.
MATSUDA A — 47.
MATSUDA H — 4214.
MATSUDA M — 2026.
MATSUDA S — 4272.
MATSUDAIRA T — 2897.
MATSUFUJI S — 8189.
MATSUMOTO A — Section 17: 111, 3238, 5711, 5712, 6451, 8085.
MATSUMOTO T — 2834, 2927, 6370.
MATSUMOTO YUSHI SEIYAKU — 3156P.
MATSUMURA S — 1293.
MATSUMURA T — 8159.
MATSUNAGA T — 9844.
MATSUNO T — 3173.
MATSUO H — 5712.
MATSUO K — 4004.
MATSUOKA H — 5321.
MATSUOKA M — 3113, 7235, 7963.
MATSUOKA S — 2155P.
MATSUSHITA ELECTRIC INDUSTRIAL CO — Section 44: 1014P. Section 64: 467P, 5237P, 5238P, 6007P, 6008P. Section 80: 1315P, 3836P, 4656P, 7104P, 7105P, 7819P, 8795P, 8796P.
MATSUSHITA ELECTRIC WORKS — Section 18: 3264P. Section 40: 3383P, 3384P. Section 64: 2789P, 6828P, 6829P, 8530P, 8531P. Section 80: 2156P, 3837P, 3838P, 3839P.
MATTER P — 1180, 6031, 6856.
MATTHAN J — 2342.
MATTHEWS D G — 9708.
MATTHEWS G — 7766.
MATTHEWS R — 8642.
MATUSZEWSKA-CZERWIK J — 112, 7072.
MATVEEV B D — 7488.
MATYJASZEWSKI K — 2377, 3211, 4030.
MATYSKA B — 7994.
MATZNER M — 3227.
MAUGIN G A — 6875.
MAURITZ K A — 9746.
MAUTNER G — 8086.
MAXWELL I A — 819.
MAY C A — 737.
MAY J T — 5434.
MAY J-F — 3620.
MAY T — 4172.
MAY W J — 9816.
MAYER E — 539.
MAYFARTH H — 9715.
MAYNE J E O — 355.
MAYO B A — 6092.

MAYR H — 94.
MAYS J W — 8592.
MAZALEVSKAYA L A — 392.
MAZE E — 5322.
MAZLUMOGLU T — 8074.
MAZUREK M A — 7055.
MAZZOLI G — 5782.
MAZZONI D — 5447.
MCALPINE I — 4399.
MCAUGHHEY J J — 8733.
MCBEAN C — 5046.
MCBRIAR D I — 2925.
MCBRIERTY V J — 1979, 2889.
MCCAMMON C S — 5370.
MCCARTHY C J — 3614.
MCCARTHY T J — 156, 4090, 4465, 5684.
MCCLELLAND J F — 6926.
MCCLEMENTS D J — 2926.
MCCLENNY W A — 4516.
MCCONKEY S E — 6678.
MCCONNELL J A — 5425.
MCCRONE W C — 8681.
MCDERMOTT L — 1987.
MCDONALD A D — 1275, 7767.
MCDONALD F — 759.
MCDONALD J C — 7768.
MCDONALD L A — 5700.
MCDONOUGH C — 319.
MCELRATH K O — 500.
MCEVOY C — 2718.
MCEWEN I J — 3165.
MCFADYEN P — 7735.
MCGAREY B — 8682.
MCGINNES M — 2958.
MCGINNESS M — 7038.
MCGOWN R L — 391.
MCGRATH J E — 912, 3225, 4046, 4126.
MCGREGOR D B — 9784.
MCGUFFOG R — 2257.
MCGUIGGAN P — 8586.
MCINERNEY K J — 9925.
MCINTOSH A — 9986.
MCINTYRE A E — 3650, 3651.
MCINTYRE D R — 2618, 3422.
MCINTYRE K — 7456.
MCKAIG P A — 9516.
MCKAY D — 7771.
MCKAY G — 2313.
MCKAY R B — 3962.
MCKENNA G B — 1899, 2027, 8606.
MCKENZIE M — 7537.
MCKNIGHT M E — 7535, 8407, 8408, 8409.
MCKUBRE M C H — 8415.
MCLAFFERTY F W — 3688.
MCLAREN K — 3612.
MCLAUCHIN J K — 2960.
MCLAUGHLIN A — 7920.
MCLAUGHLIN H S — 6452.
MCLENAGHAN A D W — 8682.
MCLEOD K — 377, 7408, 9245.
MCLUCKEY S A — 2876.
MCMAHON W — 2633.
MCMICHAEL B — 5619.
MCMURRY P H — 7722.
MCNAMARA D K — 7699.
MCNEIL-WATSON F K — 3747.
MCNEILL I C — 4557.
MCNICOL J W — 8618.
MCSHANE J R — 1188.
MCTAGUE J P — 8182.
MCVITTIE D J — 8708.
MD-PAPIERFABRIKEN HEINRICH NICOLAUS GMBH — 8989P.
MEAD CORP — 7106P.
MEAD R N — 3200, 4023, 9054.
MEADOR M A B — 3289.
MEADOWS B — 206, 5878.
MEAKIN P — 4556.
MEARL CORP — 1474P, 6830P.
MEAZZI A — 5105.
MECKLENBURG M F — 7699.
MEDINA S W — 3369, 5045.
MEENAKSHISUNDARAM R — 6647.
MEEUWSEN T — 5309.
MEGURO K — 2023, 2255.
MEHTA P G — 165.
MEHTA R — 103, 5403.
MEIDENSHA ELECTRIC MANUFACTURING CO — 3493P.
MEIER G — 9445.
MEIER M — 520.
MEIER P — 5294.
MEIJS G F — 1532.
MEIMETEAS A — 8363P.
MEIRA G R — 78, 1943, 1974.
MEISEI KAGAKU KOGYO CO — 6009P.
MEISEL D — 2025.
MEISSNER K — 4567.
MEIXNER J — 218, 2395, 5779, 8200.
MEKRAS C I — 7340.
MELBER G E — 5496.
MELICHAREK J — 3548.
MELISSARIS A P — 3290, 5965, 8130.
MELNIK G F — 9875P.
MELODY D P — 8257.
MELOY T P — 293.
MELVILLE I — 2687.
MEMETEA T — 4898.
MEN'SHIKOV V V — 7455.
MENARDI P J — 7320.
MENCER H J — 820.
MENDELSON R A — 1901.
MENDES F — 413.
MENES J — 6498.
MENG Y-Z — 8064.
MENGES G — 2635.
MENGOLI G — 375.
MENSHIKOV V V — 1028.
MENU C — 5320.
MENZIES I — 2766.
MERCIER J P — 8042.
MERCK & CO — 4297P.
MERCK JAPAN CO — 28P, 4838P.
MERCK PATENT GMBH — 29P, 30P, 3121P, 3840P, 7976P.
MERENGO M — 5879, 6677.
MERIC R A — 1241, 2912.
MERICLE D — 2958.
MERINO P — 6693.
MERKULOV V A — 7764.
MERKUS H G — 3752.
MERRICK B A — 4595.
MERRILL D F — 991.
MERTENS J A — 7489.
MERWIN L H — 9687.
MERZ W — 9686.
MERZBACH H D — 3959.
MESSIHA N N — 192, 8161.
METAL BOX PLC — 333P, 1746P, 1747P, 3791P, 7067P.
METAL CORROSION PROTECTION — 9494P.
METALAS-HOLLAND BV — 1748P.
METALLGESELLSCHAFT AG — 4839P.
METALLOGAL AG — 2529P.
METALS AND PLASTICS PUBLICATIONS INC — 4798.
METCALFE P J — 7791.
METSA-SERLA OY — 1645P.
METTLEN D — 6142.
METWALLY M M — 6808.
METZ G — 3034.
METZGER C W — 8517.
METZGER D — 1734.
METZGER J O — 4854.
METZNER K — 8612.
MEULDERMANS W E G — 6204.
MEYER G C — 821, 5663, 7342.
MEYER H — 5287, 9055.
MEYERHOFF G — 4641.
MICHAEL R C — 3705P.
MICHAEL R S — 6950.
MICHAELIAN K H — 4515.
MICHAILLE S — 4916.
MICHAUD P — 6427.

MICHEL W — 453, 8511.
MICHELMAN J S — 6792.
MICHL K H — 2572.
MIDGLEY D — 3684.
MIELEWSKI D F — 411.
MIELKE W — 2835.
MIHAMA H — 5631P.
MIHM J — 9442.
MIHM J W — 3516.
MIJANGOS C — 6481.
MIJOVIC J — 5266.
MIKA T F — 113.
MIKAYA A I — 521.
MIKH T F — 9839.
MIKHAILOVA A V — 7800.
MIKHAILOVA L S — 9710.
MIKHITAROVA Z A — 7802.
MIKITAEV A K — 8082.
MIKROYANNIDIS J A — 1611, 3290, 5965, 8130, 9132.
MIKSIC B A — 9446.
MILEHAM P — 7606.
MILES D — 5811.
MILESI G — 1852.
MILESKI G J — 5948.
MILIC R — 917, 5783.
MILIK M — 7732.
MILLARD B J — 1218.
MILLARD P — 738.
MILLER A — 2210, 6608.
MILLER B A — 2959, 9783.
MILLER C E — 3645.
MILLER D J — 4497.
MILLER D R — 7607.
MILLER H C — 6214.
MILLER J — 6428.
MILLER J C — 1975.
MILLER J N — 1975.
MILLER J S — 2967.
MILLER K — 2096.
MILLER L A — 41.
MILLER R A — 4577.
MILLER R E — 1295.
MILLER R N — 9447.
MILLER S B — 441.
MILLER-IHLI N J — 3685.
MILLES G — 9983.
MILLON A M — 2127.
MILLS A A — 7733.
MILLS G — 3475, 8411, 9448, 9984.
MILLS P D A — 3619.
MILLS S — 2076.
MILNE F J — 7754.
MILNER S T — 6143.
MILWARD R — 9714.
MILWARD R C — 501.
MIN D B — 788.
MIN K — 5081.
MIN K E — 540.
MINAMI M — 9795.
MINAMI T — 321, 6942.
MINDER C E — 6189.
MINELLI G — 4546.
MINING ENGINEERING SCHOOL OF MADRID — 2097.
MINING MECHANICS RES — 8275P.
MINISTER OF FORESTRY FOR NEW ZEALAND — 5956P.
MINISTER OF INDUSTRY AND RESEARCH — 4693.
MINISTERE DE L'INDUSTRIE — 657.
MINISTERE DES AFFAIRES SOCIALES ET DE L'EMPLOI — 718.
MINISTRY OF AGRICULTURE FISHERIES AND FOOD — 4799.
MINNEMA L — 7073.
MINNESOTA MINING & MANUFACTURING CO — Section 06: 5643P, 9018P. Section 18: 870P, 1586P, 4080P, 9119P. Section 22: 6513P, 7350P, 8144P, 9153P, 9154P. Section 24: 3325P. Section 34: 8193P. Section 36: 8219P. Section 40: 270P, 998P, 999P, 2581P, 6595P. Section 44: 6611P. Section 50: 8364P. Section 52: 5131P. Section 64: 2790P, 3587P, 6010P, 6831P, 8532P, 8533P, 9606P, 9607P. Section 80: 3841P, 4657P, 4658P, 8797P, 9876P, 9877P.
MINOLTA CAMERA CO — 1316P.
MINTO F — 3314.
MINTON K — 2210.
MIRABEL B — 2547.
MIRABELLA F M — 2874, 5295.
MIRAJKAR A M — 4853.
MIRANDA T — 318.
MIRANDA T J — 1659.
MIRAU P A — 1976.
MIRER E V — 9196.
MIRKIND L A — 7690.
MIRLE S K — 6989.
MISAKI T — 8593.
MISAWA HOME CO — 1749P, 9543P.
MISEV T A — 2396.
MISHIMA M — 9846.
MISHRA K — 5323.
MISKOVIC-STANKOVIC V B — 2542.
MISSIAEN J-M — 6144.
MISSIER G — 6652.
MISTRY B — 3139.
MISTRY B S — 788.
MISZCZYK A — 7, 387, 5925.
MITA I — 6916, 9130.
MITCHELL G R — 1977.
MITCHELL J F — 3745.
MITCHELL P J — 7490.
MITCHOFF M E — 5949.
MITRA S — 1289.
MITSIANI G — 6949.
MITSOULIS E — 2636.
MITSUBISHI CHEMICAL INDUSTRIES — Section 02: 3122P. Section 06: 4863P. Section 22: 8145P. Section 42: 276P. Section 44: 9317P. Section 80: 6231P, 8798P, 8799P, 9878P.
MITSUBISHI DENKI CO — Section 36: 5793P. Section 44: 1709P. Section 58: 9535P. Section 80: 619P, 620P, 3842P, 5476P.
MITSUBISHI ELECTRIC CORP — 2478P.
MITSUBISHI GAS CHEMICAL CO — Section 06: 1497P. Section 18: 4081P, 8110P. Section 22: 4112P, 9155P. Section 40: 2582P, 2583P, 2584P, 8276P. Section 54: 5169P. Section 80: 3010P, 3011P, 9879P.
MITSUBISHI HEAVY INDUSTRY CO — Section 42: 277P. Section 54: 400P, 1796P, 2707P, 5937P, 6748P, 9495P.
MITSUBISHI KASEI CORP — 3140, 7107P.
MITSUBISHI KASEI VINYL CO — 468P, 1824P, 4249P.
MITSUBISHI MONSANTO CO — 8497P.
MITSUBISHI MOTORS CORP — 1158P, 4193P, 5170P.
MITSUBISHI OIL CO — 1552P, 4152P.
MITSUBISHI PAPER MILLS — Section 40: 8277P, 8278P. Section 42: 6603P, 9299P, 9300P, 9301P. Section 62: 444P.
MITSUBISHI PENCIL CO — 2601P, 9318P.
MITSUBISHI PETROCHEMICAL CO — Section 18: 136P. Section 22: 175P, 176P, 6514P. Section 38: 8238P. Section 40: 1699P. Section 58: 4373P. Section 62: 1122P. Section 64: 469P, 1159P, 2791P, 4439P, 5239P, 8534P. Section 80: 8800P, 9880P.
MITSUBISHI RAYON CO — Section 02: 31P, 32P, 1475P, 3975P. Section 06: 5644P, 5645P. Section 18: 1587P, 1588P, 3265P. Section 20: 3279P. Section 32: 4993P. Section 38: 9248P. Section 40: 4222P. Section 54: 5938P. Section 62: 9559P. Section 64: 2792P, 9608P. Section 80: 621P, 622P, 623P, 624P, 1317P, 3843P, 4659P.
MITSUBISHI YUKA BADISCHE — Section 12: 8056P. Section 36: 8220P, 8221P. Section 56: 423P, 1815P, 8464P.
MITSUBISHI YUKA CO — 5826P.
MITSUI ENGINEERING & SHIPBUILDING CO — 3494P, 7616P.
MITSUI FUDOSAN CO — 214P.
MITSUI KOZAN CO — 3976P.
MITSUI MINING & SMELTING CO — 6011P, 7597P.
MITSUI PETROCHEMICAL INDUSTRIES — Section 06: 9019P. Section 08: 5655P. Section 16: 1553P. Section 18: 871P, 1589P, 3266P, 4082P, 4935P.

Section 20: 1602P. Section 32: 2522P. Section 34: 2530P, 8194P. Section 40: 9270P. Section 42: 9302P. Section 54: 6749P. Section 64: 1160P, 7617P.
MITSUI TOATSU CHEMICALS CO — Section 06: 1498P, 1499P, 4864P. Section 18: 137P, 872P, 873P, 3267P, 4936P. Section 22: 177P, 178P, 2479P, 4113P, 4967P, 4968P, 5756P, 6515P, 6516P, 7351P, 9156P, 9157P, 9158P. Section 24: 4980P, 7365P. Section 30: 8179P. Section 34: 6542P. Section 40: 1000P, 1700P, 5827P, 5828P, 8279P, 8280P, 9271P. Section 44: 1015P, 1710P. Section 46: 8316P. Section 56: 1816P. Section 62: 1123P, 1843P, 6799P. Section 64: 1872P, 4440P, 6012P, 6013P, 6832P, 6833P, 8535P, 9609P. Section 80: 7108P, 9881P, 9882P.
MITSUTANI K — 6941.
MITTAL J — 5693.
MIYAHARA T — 9846.
MIYAI Y — 4.
MIYAJI T — 3286.
MIYANAMI K — 1721.
MIYASHITA T — 2026.
MIYATA K — 3111.
MIYATA KOGYO CO — 1758P.
MIYAUCHI N — 4998.
MIYAZAKI S — 376.
MIZOGAMI S — 2397.
MIZOGUCHI A — 3112.
MIZUGUCHI R — 817, 4096.
MIZUMACHI H — 9649.
MIZUNO K — 7304.
MIZUSHIMA A — 4635.
MIZUTARU S — 9737.
MIZUYA J — 3237.
MLADENOVA L — 9070.
MLEJNEK O — 8624.
MLEZIVA J — 917, 5783.
MLYNAROVA M — 3281.
MOAD G — 2343, 2344, 2345.
MOBAY CORP — Section 18: 4083P. Section 22: 4114P, 6517P. Section 36: 5026P, 8222P. Section 42: 278P.
MOBIL OIL CORP — 1844P, 3588P, 4407P, 9610P.
MOCHIDA SHOKO CO — 8536P.
MOCHIZUKI Y — 2020.
MOCK R S — 1219.
MODAK M — 8762.
MOELLER R L — 3981.
MOETI L T — 4256.
MOGGI G — 8412.
MOHAN P S — 6658, 6700, 6711.
MOHN D E — 9449.
MOHNERT J — 8714.
MOHSIN M A — 3807.
MOISAN J-Y — 4236.
MOK W S — 8175.
MOLDVAI T — 3618.
MOLERA P — 3502, 9450.
MOLES P J — 2304, 8201.
MOLHOEK L J — 1521.
MOLLER M — 1262, 6984.
MOLLIN J — 1220.
MOLODTSOV S S — 5683.
MOLONEY D — 7679.
MOLSKI A — 6990, 8678.
MOLTENI G — 1898.
MOMOSE T — 7333, 8059.
MONARI P — 5699.
MONEY K L — 3476.
MONICO G — 2187.
MONIGA P — 6852.
MONROE B M — 5435.
MONSANTO CO — Section 08: 68P, 2311P. Section 22: 6518P, 7352P. Section 32: 6538P, 7376P. Section 38: 8239P. Section 50: 1044P.
MONTANARI F W — 658.
MONTAUDO G — 3179.
MONTE S J — 2691.
MONTEDIPE SPA — 6406P.
MONTEDISON SPA — 5757P.
MONTENEGRO A M C — 3662.
MONTGOMERY D D — 4620.
MONTIZAAN G K — 5369.
MONTLE J — 9469.
MONTONERI E — 4123, 9133.
MONTORSI E — 5915.
MOODIE K — 4385, 6781.
MOODY C D — 5389.
MOONEN J — 3686.
MOONEY CHEMICALS INC — 3539P, 3540P, 8195P.
MOORE G A — 3961.
MOORE J A — 165, 5745.
MOORE M M — 2098.
MOORE V A — 9451.
MOORES J — 7608.
MOORMAN R — 3035.
MOORMANN-SCHMITZ A — 2997.
MOORTHY K S — 7755.
MOOS K-H — 4467.
MOPSIK F I — 5311.
MORALES E — 2875.
MORAN P J — 1061, 5151, 6715.
MORANDINI E — 2188.
MORANTZ D J — 3732.
MORAWETZ H — 4483.
MORAWSKI J C — 3763.
MORBIDELLI M — 79, 829, 1548, 8063.
MORCILLO M — Section 01: 2256. Section 49: 7491. Section 53: 352, 360, 4312, 6694, 8390, 8393.
MOREIRA R L — 4507.
MOREL E — 3629, 3652, 3711, 7705.
MORER J-L — 8365P.
MORESBY J F — 2676.
MORETON R S — 739.
MORGAN G C — 2516.
MORGAN N R — 9965.
MORGAN R — 9797.
MORGAN S — 2024.
MORI H — 2099.
MORI K — 4272.
MORI S — 9699.
MORI Y — 3752.
MORIARTY R M — 2286.
MORIKAWA T — 8717.
MORIMURA BADISCHE CO — 8438P.
MORINAGA T — 1293.
MORIOKA T — 6058.
MORISANI S J — 3646.
MORISAWA TRADING CO — 3157P.
MORISSE-ARNOLD D K — 8510.
MORITA M — 7630.
MORITANI T — 110.
MORITZ H-U — 2354.
MORIYA O — 918.
MORMANN W — 6499.
MORMILE P J — 1608.
MORPHY J S — 3377.
MORRA M — 8679.
MORRELL J J — 2727, 2731, 5949.
MORRIS A J — 1026.
MORRIS B W — 4596.
MORRIS C E M — 4542, 5044.
MORRIS G A — 3687.
MORRIS G D L — 6284, 7185.
MORRIS N H — 9010.
MORRIS W T — 7074.
MORRISON C — 7236.
MORRISON G H — 4509.
MORRISON J A — 4593.
MORRISON N J — 4141.
MORRISON P E — 2677.
MORRISON W H (JR) — 2809.
MORRISS R H — 3611.
MORRO A — 6875.
MORRUSHIN A D — 3318.
MORTENSEN E L — 560.
MORTERRA C — 9733.
MORTON L H G — 1096, 1097.
MORTON T H — 2490.
MORTON THIOKOL INC — 138P, 257P, 1750P.
MOSBACH J — 2543.
MOSCA A M L — 7579.
MOSCONI G — 2100.
MOSCOW FORESTRY INSTITUTE — 6834P.

MOSER W — 1775.
MOSHOHORITOU R — 5845.
MOSINA L V — 9693.
MOSKO J T — 4871.
MOSLE H G — 6644.
MOSS M — 114.
MOSS N — 1035.
MOSS N S — 7407.
MOSS S T — 5947.
MOSSELMANS G — 563.
MOSTERT S — 6583.
MOTAWIE A H — 2.
MOTOMURA K — 8671.
MOTOMURA T — 4998.
MOTT W S — 2591.
MOULD H — 1210.
MOULTON D V — 2658.
MOULUT O — 6100.
MOUSSA K — 1055, 1288, 2126.
MOUSTAFA M — 6808.
MOUSTAFA O F — 2.
MOUTIER C — 4055.
MOYNIHAN J T — 7430.
MRKVICKOVA L — 5324.
MRONGA N — 8568.
MRUTHYUNJAYA H C — 5530.
MSAYIB K J — 4947.
MSI DATABASE — 8959.
MTU MOTOREN & TURBINEN-UNION MUNCHEN GMBH — 445P.
MUCKLEJOHN S A — 2016.
MUELHAUSER S — 2861.
MUELLER A H E — 4043.
MUELLER F-J — 2861.
MUELLER H — 2123.
MUELLER H W J — 8232.
MUELLER R J — 7438.
MUELLER S — 6482.
MUHLBACH K — 797.
MUHLENKAMP M — 1679, 3359.
MUIJSER H — 4597.
MUIR M — 6398.
MUIZEBELT W J — 8087.
MUKHERJEE S — 7338.
MUKHINA L L — 3318.
MUKUNDAN A L — 1637.
MUKUNDAN K — 7536.
MULESHKOVA L — 9452.
MULHOLLAND M — 9667.
MULIK J D — 4516.
MULLEN R L — 6139.
MULLER A — 5438.
MULLER A H E — 2346, 2914.
MULLER G — 9072.
MULLER H — 5810, 9833.
MULLER L P — 7186.
MULLER S — 7527.
MULVANEY P — 2025.
MULVANY J — 6712.
MUMPHREYS E — 3673.
MUNARI A — 3177, 3178, 3180, 5699.
MUNDEN B A — 9365.
MUNEKATA S — 883.
MUNGER C G — 8413, 9193.
MUNI K — 5156.
MUNOZ GUERRA S — 2931.
MUNRO H S — 2925, 3277, 8642.
MUNSTEDT H — 9056.
MURAKAMI M — 6713.
MURAKAMI T — 799.
MURAKAMI Y — 3417, 5077, 7718.
MURAKATA T — 2026.
MURANOV V A — 7792, 9817.
MURASE H — 1135.
MURATA K — 47.
MURATA T — 8640.
MURAYAMA S — 2568P, 5801P, 8075P.
MUROKH A F — 9088.
MUROV V A — 6714.
MURPHY A P — 5389.
MURPHY K P — 5639.
MURPHY M — 4991.
MURPHY S R — 7032.
MURPHY T P — 3477.
MURRAY G M — 1060.
MURRAY J N — 1061, 5151, 6715.
MURRY R — 7793.
MURTAGH J — 7302.
MURTHY R S — 7987.
MUSIANI M M — 375.
MUSIL Z — 4605, 8720.
MUSK A W — 2101.
MUSTO P — 8632.
MUTHUKUMAR M — 6145.
MYERS J — 1973, 9700.
MYERS M N — 1914.
MYERS R C — 2052, 2955.
MYLER C A — 3421.
MYSELS K J — 7734, 8680.

N

NAASLUND L U — 2102.
NABAR R — 4583.
NABLO S V — 5106.
NACHREINER D J — 2955.
NADASKY A — 6088.
NADKARNI V M — 2840.
NAF W — 6669P.
NAGABHUSHANAM R — 7934.
NAGAI K — 3236.
NAGAO M — 6146.
NAGASAKI Y — 115.
NAGASAWA H — 3112.
NAGAYA T — 4598.
NAGOYA CITY — 2646P.
NAGY I C — 8646.
NAGY M — 8069.
NAGY P A — 4564.
NAIK R B — 4957.
NAIM A A — 6438.
NAIR C P R — 190, 3315, 8088.
NAIRN CONTRACT FABRICS LTD — 1835P.
NAKABAYASHI S — 1464.
NAKACHE E — 3726.
NAKACHI N — 5136.
NAKAHARA F — 1458.
NAKAHARA Y — 1458.
NAKAI K — 5620, 7076.
NAKAJIMA H — 5632P.
NAKAJIMA T — 4599.
NAKAMAE K — 2258, 2927.
NAKAMICHI T — 3339, 4992, 5267.
NAKAMOTO M — 1994.
NAKAMURA K — 4028.
NAKANISHI F — 2995.
NAKANO M — 7260, 7359.
NAKATSUKA T — 3994.
NALCHADZHYAN S O — 5713.
NALCO CHEMICAL CO — Section 22: 906P, 2480P. Section 24: 9179P. Section 36: 4194P. Section 50: 7508P. Section 52: 9394P. Section 54: 8439P. Section 56: 9525P. Section 76: 591P, 4627P, 5397P, 7805P, 8746P.
NAM S H — 3700.
NANISHI K — 1135.
NAONO H — 5620.
NAPPER D H — 819, 3181.
NARANG S — 1294.
NARASIMHAN V — 6147.
NARGIELLO M — 9025.
NARKIS M — 6435.
NARSIMHAN G — 6148.
NASH D N — 7282.
NATANSOHN A — 1221.
NATARAJAN B — 5975.
NATE K — 4635.
NATERA J — 2718.
NATESAN M — 6700.
NATIONAL AERONAUTICS & SPACE ADMINISTRATION — 1836P, 9159P.
NATIONAL ASSOCIATION OF CORROSION ENGINEERS — 2234, 3090, 3947, 5597.

NATIONAL ASSOCIATION OF PRINTING INK MANUFACTURERS — 3397.
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH — 5606.
NATIONAL STARCH & CHEMICAL CORP — 6596P, 8146P, 8281P.
NATOKO PAINT CO — 1646P, 2509P, 2708P, 4144P.
NAUMAN E B — 1539, 6452.
NAUMENKO O V — 4309.
NAVARRO R E — 9065.
NAVOTNY J — 1811.
NAWAR W W — 38.
NAYATANI Y — 2814, 2815, 2816, 7631.
NAYLOR I L — 8716.
NAYLOR T DE V — 2028.
NAZARI G — 6373.
NAZZAL A — 5739.
NEAGU R — 3423.
NEAL B — 9818.
NEALE M — 7794.
NEAMTU I — 5715.
NEC CORP — 5477P.
NECKERS D C — 9838.
NEENAN T X — 4031.
NEFF W E — 9678.
NEFFEGEN B — 6443.
NEHETE M H — 9454.
NEIDLINGER H H — 3995.
NEIMAN E YA — 7681.
NEKORKINA T A — 9710.
NELEN P J C — 2347.
NELL W E — 2647P.
NELSON J — 7417.
NELSON L D — 3445.
NELSON P — 2259.
NELSON R — 3082.
NEMTOI G — 5308.
NEOLITH CHEMICALS LTD — 5171P.
NEROZINK V G — 9839.
NESPUREK S — 9171.
NESS J N — 2877.
NESTERENKO S A — 4309.
NETHERCOTT J R — 3771, 4586.
NEUMANN A W — 8696.
NEUTRON PRODUCTS INC — 6597P.
NEVISSAS V — 821.
NEW JAPAN CHEMICAL CO — Section 18: 139P, 140P. Section 22: 1628P, 8147P. Section 40: 7425P. Section 42: 1703P. Section 80: 625P, 1318P.
NEWBERTH R — 8258.
NEWBILL M A — 2727, 2731.
NEWMAN D A — 7956.
NEWMAN L C — 4383.
NEWMAN P — 8202.
NEWMAN T M — 9701.
NEWTON C J — 2678.
NEWTON D — 2218.
NG H — 2928.
NG K M — 942.
NG S K — 2073.
NGHIEP P H — 9072.
NGK INSULATORS CO — 3407P.
NGO P-A P — 5312.
NGUYEN T — 2878, 2879, 7535, 9702.
NGUYEN T-L H — 4314.
NICHIBAN CO — 1873P, 6598P.
NICHOLAS D M F — 2634.
NICHOLLS J R — 745.
NICHOLS A L — 3745.
NICHOLSON J W — 3716, 6548, 7224, 8203.
NICOL J A — 590P.
NICORA C — 8759.
NIELEN M W F — 2880.
NIELSEN H K R — 7795.
NIELSEN J — 7033.
NIELSEN K — 5296.
NIEMELA K — 8633.
NIENABER K — 6716.
NIESSNER G — 8486.
NIETO J L — 7257.
NIGAM K D P — 3741.
NIGRO J — 6448.
NIHON PARKERIZING CO — Section 36: 962P, 963P, 1668P. Section 50: 334P, 335P, 1045P, 1046P, 3453P, 3454P, 3455P, 4289P, 5889P. Section 54: 401P, 1081P. Section 64: 9611P.
NIHON TOSO KOGYO — 7618P.
NIKI E — 9003, 9004.
NIKOLENKO R I — 2031.
NIKOLOVA M — 5107.
NIKULIN S S — 7796.
NIKULINA L E — 7312.
NILSSON C-A — 2882.
NILSSON K B — 2103.
NILSSON T — 3507.
NIPPON CARBIDE INDUSTRIES CO — 240P, 2793P, 4408P.
NIPPON CHEMICAL INDUSTRY CO — 4367P.
NIPPON CIBA-GEIGY CO — 470P.
NIPPON DENSO CO — 336P, 5890P.
NIPPON ELECTROPLATING — 2157P.
NIPPON ESTER CO — 984P, 8240P.
NIPPON GLASS FIBRE — 1476P, 3123P.
NIPPON GOMU CO — 1161P.
NIPPON KAKO SEISHI CO — 9560P.
NIPPON KAYAKU CO — Section 18: 4937P, 8111P. Section 24: 4135P. Section 80: 1319P, 1320P, 4660P, 4661P, 5478P, 7109P, 7110P, 7820P, 8801P.
NIPPON KOKAN CO — Section 50: 337P. Section 54: 1082P, 1083P, 2709P, 3495P, 3496P, 8440P, 9496P. Section 64: 7619P.
NIPPON KOKUEN KOGYO — 2613P.
NIPPON LIGHT METAL CO — 5172P, 9381P.
NIPPON MC BOEKI CO — 3124P.
NIPPON MECTRON CO — 2439P.
NIPPON MINING CO — 1797P, 2585P, 8317P, 8318P.
NIPPON MIRACTORAN CO — 3560P.
NIPPON OIL CO — 2794P, 2795P, 9303P.
NIPPON OILS & FATS CO — Section 08: 6422P, 8026P, 8027P. Section 14: 4027P, 4896P, 5676P, 7299P. Section 18: 4938P, 6473P, 8112P. Section 34: 9210P, 9211P, 9212P. Section 36: 964P. Section 38: 4204P. Section 54: 402P, 1084P, 2710P, 5173P, 6750P, 9497P. Section 56: 424P, 1101P, 2740P, 6766P, 8465P, 8466P, 8467P, 8468P, 8469P, 8470P, 8471P, 8472P, 9526P. Section 62: 7598P. Section 64: 471P, 472P, 1874P, 1875P, 2796P, 4441P, 7620P, 9612P. Section 80: 626P, 627P, 1321P, 5479P, 6232P, 6233P, 8802P, 9883P.
NIPPON PAINT CO — Section 02: 1477P, 4840P, 4841P. Section 06: 3989P. Section 08: 69P, 5656P, 7286P. Section 12: 826P, 4893P. Section 14: 1550P. Section 16: 2382P. Section 18: 141P, 142P, 143P, 1590P, 3268P, 4084P, 4939P, 7327P. Section 32: 940P, 5770P. Section 34: 2531P, 2532P, 4165P, 4166P, 5003P. Section 36: 241P, 242P, 243P, 965P, 966P, 967P, 968P, 969P, 970P, 1669P, 1670P, 1671P, 1672P, 5027P, 6572P, 7395P. Section 38: 1685P, 1686P. Section 46: 286P. Section 54: 403P, 1798P, 3497P, 6751P, 8441P. Section 56: 425P, 426P, 3541P, 3542P, 3543P, 8473P, 8474P, 8475P, 9527P. Section 64: 1162P, 2797P, 2798P, 2799P, 4442P, 6014P, 6015P, 6016P, 6017P, 7621P, 7622P, 8537P, 8538P, 8539P, 9613P, 9614P. Section 80: 2158P, 2159P, 2160P, 2161P, 4662P, 6234P, 7111P, 8803P.
NIPPON POLYURETHANE INDUSTRY CO — 4409P.
NIPPON SEIHAKU CO — 1322P, 2162P, 5240P, 6235P, 9615P.
NIPPON SEIKA CO — 7591P.
NIPPON SEKKAI KOGYO — 3125P.
NIPPON SHEET GLASS CO — 1845P, 1846P, 1876P, 9561P.
NIPPON SHOKUBAI CHEMICAL INDUSTRY CO — Section 02: 33P, 1478P, 3126P, 3977P, 4842P, 4843P. Section 08: 4002P. Section 14: 2375P. Section 18: 144P. Section 20: 4094P. Section 22: 8148P, 8149P. Section 36: 9234P. Section 40: 9272P. Section 56: 9528P. Section 64: 473P, 1163P, 4443P, 6835P. Section 80: 628P, 629P, 2163P, 3844P, 5480P, 5481P, 6236P.
NIPPON SODA CO — Section 02: 7977P. Section 08: 9044P. Section 18: 3269P. Section 22: 9160P. Section 24: 9180P. Section 46: 6622P. Section 54: 9498P, 9499P. Section 80: 4663P, 5482P.

NIPPON STEEL & CHEMICAL CO — Section 18: 2433P. Section 24: 2502P. Section 54: 404P, 8442P. Section 64: 3589P, 9616P.
NIPPON STEEL CORP — Section 02: 6389P, 8990P. Section 50: 1047P, 1751P, 1752P, 1753P, 4290P. Section 54: 405P, 1085P, 1086P, 1799P, 2711P, 4345P, 5939P, 6752P, 7560P, 8443P. Section 64: 5241P, 6018P, 8540P, 8541P.
NIPPON SYNTHETIC CHEMICAL INDUSTRY CO — 244P, 3352P, 5727P, 5829P.
NIPPON TELEGRAPH & TELEPHONE PUBLIC CORP — Section 22: 6519P, 9161P. Section 24: 3326P. Section 36: 245P. Section 58: 6772P. Section 80: 2164P, 2165P, 3012P, 3845P, 4664P, 4665P, 4666P, 6237P.
NIPPON ZEON CO — Section 08: 3158P. Section 16: 835P, 5690P. Section 46: 5074P. Section 64: 3590P. Section 80: 3013P, 3014P, 5483P, 6238P, 6239P, 7112P, 7821P, 8804P.
NIRONI G — 1735, 6653, 6654.
NIRVAN Y P S — 1776.
NISE G — 566, 7769.
NISHIDE H — 1561.
NISHIHARA M — 1186.
NISHIKUBO T — 3286, 3808, 4737, 8159, 9840.
NISHIOKA K — 9785.
NISHIYAMA N — 6991.
NISHIZAWA K — 1463.
NISSAN CHEMICAL INDUSTRIES — 437P.
NISSAN MOTOR CO — Section 54: 406P, 1087P, 1800P, 4346P. Section 62: 1124P, 5983P, 7599P. Section 64: 1164P, 1165P, 8542P, 9617P, 9618P.
NISSHIN KOGYO CO — 5242P.
NISSHIN OIL MILLS CO — 5067P.
NISSHIN STEEL CO — Section 50: 338P, 1754P, 4291P, 8366P. Section 54: 1801P, 5174P. Section 64: 5243P.
NISSO MARUZEN CHEMICAL CO — 7328P.
NISSO YUKA KOGYO CO — 3990P.
NITIDANDHAPRABHAS O — 3398.
NITSCHKE — 4600.
NITSCHKE K D — 4601.
NITTO BOSEKI CO — 5758P, 7113P.
NITTO CHEMICAL INDUSTRY CO — 5484P.
NITTO ELECTRIC INDUSTRY CO — Section 14: 9067P. Section 38: 3360P, 7413P. Section 40: 3385P, 3386P, 3387P, 5830P, 7426P. Section 50: 9382P. Section 54: 407P, 4347P. Section 56: 9529P. Section 58: 1103P, 6773P, 7587P. Section 64: 1877P, 4444P, 5244P, 6836P, 9619P, 9620P. Section 80: 630P, 631P, 2166P, 3846P, 3847P, 3848P, 3849P, 8805P, 9884P, 9885P.
NITTO KASEI CO — 4368P.
NITZL K — 1222, 2996, 2997.
NIWA M — 4024.
NIXON R A — 2679.
NL CHEMICALS — 1515P.
NL CHEMICALS INC — 2312P, 6573P.
NOACK M — 5703.
NOBBS J H — 6032, 6857.
NOEL C — 2348.
NOH J S — 8683.
NOHARA M — 2129.
NOLKEN E — 6446.
NOLL K — 2998.
NOMETAL ORES IND — 4844P.
NOMURA M — 116, 4917.
NOMURA S — 8329.
NONAKA A — 8684.
NOOLANDI J — 7710.
NOOMEN A — 5009.
NOORDAM A — 2544.
NORDBERG G F — 5599.
NORDMARK N — 1003.
NORDSON CORP — 7509P, 9383P.
NORGAARD E — 8456.
NORGATE C D — 7431.
NORILSK MINE-METAL — 8367P.
NORMAND F — 6525.
NORRIS J D — 2881.
NORRIS J O W — 8594.
NORRIS K — 6086.
NORSOLOR — 6753P.
NORTH DAKOTA STATE UNIVERSITY — 4167P.
NORTHERN TELECOM LTD — 9395P.
NORTON R — 9919.
NORTON R L — 5684.
NORTON R V — 5436.
NOSAN V N — 8050.
NOSBUSCH G — 4213.
NOSOV V I — 7492.
NOVAK J — 2398, 3138, 8089.
NOVICKY M — 4525.
NOVIS Y — 8348, 8634.
NOVITSKII V S — 4315.
NOVOMOSK ORG SYNTH — 7268P.
NOWAKOW P — 5736.
NOWICK J S — 8158.
NOWICKI W — 8678.
NOYES R M — 2293.
NUGARI M P — 3521.
NUGENT J — 4558.
NUGENT W A — 7995.
NUNEZ I M — 3000.
NUNN M J — 8395.
NURMI T M — 6248.
NURNBERGER U — 5916.
NUTT A R — 3083.
NUYKEN O — Section 11: 1533, 4014, 9057. Section 15: 2378. Section 21: 1612, 6500. Section 79: 7075, 9841.
NUZHDA L I — 9786.
NYDEN M R — 4517.
NYGREN O — 2882.
NYLUND J E — 3574.

O

O & R INKTCHEMIE BV 4240P.
O'BRIEN G — 1136.
O'BRIEN M J — 5697.
O'BRIEN N W — 2016.
O'CONNOR D — 9716.
O'CONNOR M — 7632.
O'DONNELL W G 5152.
O'DONOGHUE J L — 9787.
O'DONOHUE S J — 9740.
O'DRISCOLL K F — 1528, 1534, 2349, 7306, 9083.
O'DRISCOLL M — 2260.
O'HARA K — 2767.
O'HAVER T C — 1938.
O'NEILL J R — 5437.
O'NEILL K — 3036.
O'NEILL L A — 3084, 4384, 6357, 7770.
O'NEILL P — 5279.
O'NEILL T B — 3517.
O'NEILL T J — 3775.
O'ROURKE W T S — 507.
O'SHEA K — 2287.
O'SULLIVAN D A — 9819, 9820, 9956.
OBRUSNIK I — 9703.
OBSEDSHEVSKII V S — 5931.
OCCHIELLO E — 3446, 8679.
OCCIDENTAL CHEMICAL CORP — 1603P, 6019P, 6754P, 8028P.
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION — 7207, 9987.
OCHOA T — 6717.
ODA M — 378.
ODESSA ENG CONS INST — 145P.
ODIAN G — 7358.
ODKVIST L — 2070.
ODLYHA M — 5326.
ODOM R W — 1980.
OETTER G — 7736.
OFFICE OF TECHNOLOGY ASSESSMENT TASK FORCE — 740.
OFFREDI P — 585.
OGAREV V A — 7641.
OGASAWARA M — 9785.
OGAWA T — 8070, 9065.
OGILBY P R — 838.
OGINO K — 541.
OGIWARA Y — 6213.
OGLE C J — 7034.

OGUCHI R — 2883.
OGURA H — 2261.
OGURI Y — 763.
OGUSHI Y — 1716P, 3591P.
OHASHI K — 7076.
OHASHI Y — 9788.
OHGA K — 6932.
OHGA SHINKOU CO — 9273P.
OHKITA M — 7519, 8751, 8752, 8753.
OHLSON C-G — 5377.
OHMAMEUDA K — 5764.
OHNGEMACH J — 4867, 9834.
OHTANI H — 1981.
OHYA-NISHIGUCHI H — 9455.
OIKE KOGYO CO — 474P.
OISHI Y — 164.
OIWA M — 111, 5712, 6451, 8085.
OJI PAPER CO — 4667P, 9319P, 9562P.
OK FLIT SERVICE CO — 6837P.
OKA J — 2680.
OKAI T — 378, 2681.
OKAJIMA M — 1853, 3108, 6713.
OKAMOTO J — 7333, 8059.
OKAMOTO M — 4024.
OKAMOTO S — 9455.
OKAMOTO T — 4214.
OKAWA T — 193, 2493.
OKAY O — 831.
OKENFUSS J R — 1963.
OKI ELECTRIC INDUSTRY CO — 3015P, 9621P.
OKUBO M — 5733.
OKUDA C — 2819.
OKUDA M — 3108.
OKUMA N — 2261.
OKUMURA T — 1994.
OKUMURA Y — 378, 760, 2681.
OKURA INDUSTRIAL CO — 2586P.
OLAJ O F — 2999, 9842, 9843.
OLDENBRUCH E — 320.
OLDEWEME J — 9686.
OLDROYD R S — 1723.
OLEA A F — 6149.
OLEXSEY R A — 7797.
OLF H G — 7633, 9704.
OLIN CORP — 4115P.
OLIVER M S — 8951.
OLIVER R A — 5041.
OLOWE A A — 5917.
OLSON C M — 7992, 9010.
OLSON E S — 1223, 2884.
OLSSON H — 567.
OMOTO M — 2836.
ONAL A M — 3818.
ONDRATSCHEK D — 3101.
ONEDIT — 5607.
ONG C N — 5390.
ONG H Y — 5390.
ONISHI Y — 9170.
ONOSOVA L A — 7318.
ONTARIO RESEARCH FOUNDATION — 4445P.
ONUSSEIT H — 8259.
OOE S — 760.
OOI K — 4.
OONK A — 5912.
OOSTENDORP D — 2492.
OOSTERBROEK M — 1902, 2838.
OPDAM J J G — 5371, 6936.
OPIELA K-H — 8512.
OPPENHEIMER R H — 9818.
ORBAEK P — 566, 7021, 7769.
ORENSBURG MED INST — 8991P.
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT — 8734.
ORGERET-RAVANAT C — 919.
ORISHCHENKO M YA — 4315.
ORLANDINI-VISALBERGHI M — 2843.
ORLOFF J E (JR) — 9254.
ORMONDROYD S — 157.
ORON A — 5393.
ORR E — 9172.
ORS J A — 3000.
ORSZAGH A — 7732.
ORTH M — 5194.
ORTLER R — 6608.
ORTLIEB K — 3101.
OSAKA CEMENT CO — 5193P.
OSAKA SODA CO — 9249P.
OSAKA WANISU CO — 8368P.
OSAKA YUKI KAGAKU CO — 1088P, 1166P, 4085P, 8543P, 9622P.
OSAWA Z — 7303.
OSBORNE M — 4273.
OSLOWSKI H-J — 2667.
OSMOND M F — 7408.
OSTERLOH R P — 6549.
OSTERTAG W — 2262, 8568.
OSTROWSKY N — 3748.
OTA T — 9235P.
OTHEN D G — 1457.
OTSU T — 3238, 4922, 9844.
OTSUKA CHEMICAL CO — 5957P.
OTSUKA KAGAKU YAKUHIN — 5633P.
OTSUKI T — 6501.
OTT U — 1456, 2929, 7957.
OTTEN M T — 522.
OTTEWILL R H — 6150, 6987.
OU N-H — 9810.
OUCHI T — 4056, 9084.
OVCHINNIKOV E YU — 8060, 8685.
OVCHINNIKOV YU V — 8685.
OVERAA P — 7682, 7683.
OVEREEM T — 3793.
OVERLIE O — 5.
OVERTON B — 5334, 5438.
OWEN E D — 4947.
OWEN J — 2029.
OWEN N L — 3647, 6089.
OWENS J M — 9325.
OWENS-CORNING FIBERGLAS CORP — 2507P.
OWENS-CORNING FIBERGLASS CORP — 3592P.
OWUSU R K — 3689.
OXFORD INSTITUTE OF RETAIL MANAGEMENT — 8835.
OYAMA T — 8569.
OYAMADA M — 9530P.
OZTURK T — 6431.

P

PAASCH S — 6999.
PACAKOVA V — 8635.
PACANSKY J — 9747.
PADDLE G — 3776.
PADMA S — 4958.
PADMANABHAN S — 3749.
PAGE C L — 3471, 7528, 7538.
PAGETTI J — 4883.
PAINE A J — 491.
PAINTER P C — 163, 5749, 6125.
PAINTMAKERS ASSOCIATION OF GREAT BRITAIN — 4800, 5587, 8960.
PALACKDHARRY P — 9575.
PALACKDHARRY P J — 9219.
PALAIOLOGOU M — 3750.
PALEOS C M — 7288.
PALLAS N R — 1254, 8686.
PALLIX J B — 6937.
PALMER INTERNATIONAL INC — 5245P.
PALMER S — 5834.
PALTRINIERI G — 9906.
PALUMBO G — 568.
PAN C-Y — 1562.
PAN J — 9836.
PANAYOTOVA S — 530.
PANCERI S — 4400.
PANCHALINGHAM V — 7334.
PANDA H — 7341.
PANDA R — 7341.
PANFEROVA A I — 4316.
PANG S — 1982.
PANITZ J K — 5784.
PANKRATOVA L N — 4518.

PANTULU A J — 6397.
PAPADAKIS S E — 2619, 2620.
PAPADOURAKIS A — 7457.
PAPANASTASION T C — 3630.
PAPAVA G SH — 8131.
PAPE G A — 3477.
PAPER P G — 6412.
PAPER RESEARCH INSTITUTE (USSR) — 4845P, 5634P.
PAPILLAN V V — 5372.
PAPIRER E — 523, 3763.
PAPPALARDO G C — 4123, 9133.
PAPPAS S P — 3809, 4639, 8190, 8416.
PAPRZYCKI O — 4468, 6876.
PAPUTA PECK M C — 6054.
PARASZCZAK J — 1285.
PARBHOO B M — 3312.
PARDUN H — 6396.
PARK I H — 2002.
PARK J — 7629.
PARK M H — 6151.
PARKER CHEMICAL CO — 6670P.
PARKER S E — 3785.
PARKES C — 5531.
PARKIN J — 507.
PARMENTIER J — 3340.
PARMER J F — 6152.
PARNAS R — 8123.
PARODI F — 3182, 3291, 3316.
PARR J — 1810.
PARR J A — 3511.
PARRY N D — 9638.
PARSADANOV V G — 7493.
PARSONS T E — 441.
PARTRIDGE P E — 6992, 9748.
PASHUPATHI K — 4319.
PASK S D — 2378, 4014.
PASQUALI R E — 846.
PASQUET V — 8071.
PASQUINI C — 1973, 9698.
PASTEL M J — 6789.
PASTERNACK B S — 6174.
PASTERNACK G — 5439.
PATA J — 4605, 8720.
PATEL A — 5812.
PATEL I — 48.
PATEL M — 3292.
PATEL N — 2565, 7409.
PATEL N M — 891.
PATEL P — 3292, 4012, 7289, 8049.
PATERNAIN J L — 6187.
PATERSON G A — 3714.
PATERSON S — 7771.
PATHMAMANOHARAN C — 2263, 6453.
PATIL B T — 6718, 7539.
PATSALIDES E — 3691.
PAUL D R — 540.
PAUL H — 3782.
PAUL S — 4013.
PAULER N — 4559.
PAULI H — 2808.
PAULI R — 5894.
PAULS R E — 1983.
PAULUS W — 3518.
PAUREAU J — 7639.
PAUSTENBACH D J — 1279, 2104, 9813.
PAUW O G — 294.
PAWLICZEK K — 6938.
PAWLOWSKI W P — 5746.
PAYNE K R (EDITOR) — 1450.
PCR INC — 1642P, 7561P.
PEARCE E M — 1294, 4907.
PEARCE P J — 4542, 5044.
PEARLSTEIN R A — 1250.
PEARSON C — 8846.
PEARSON R A — 7702.
PEDERSEN L M — 1276.
PEDERSEN S F — 7990.
PEDERSON G H — 5358.
PEDRICK D L — 6924.
PEELEN F C — 847.
PEETERS S — 5440.
PEFFERKORN E — 2041, 9749.
PEGORARO M — 5731.
PEI P C — 1936.
PEI R — 3963.
PEIGORSCH W W — 4577.
PEKCAN O — 7730.
PEKLER A M — 1028.
PELEG M — 7739.
PELGRIMS J — 209.
PELL S — 2065, 2066, 7779.
PELLICER N — 8656.
PELTONEN K — 2105, 2885.
PENCZEK S — Section 11: 2337, 2350, 2351. Section 17: 2399, 2400, 2401.
PENDERGRASS J A — 7920.
PENDROUS R — 5078, 5079, 8735.
PENKETT S A — 9821.
PENLIDIS A — 1534, 2371.
PENMASTA R — 2286.
PENNA R H — 2688.
PENNACE J — 2594.
PENNACHI V A — 4102.
PENNWALT CORP — Section 08: 4879P, 8029P, 8030P, 8031P, 9045P. Section 18: 146P, 2434P. Section 76: 2979P.
PENTEL CO — Section 42: 1704P, 1705P, 8295P, 8296P. Section 44: 4241P, 4242P, 5068P, 5069P, 5070P. Section 64: 1167P.
PEPESCU M — 6444.
PEPPAS N A — 851, 2410, 2935.
PEPPER D C — 9127.
PERCEC V — 4014, 7361.
PEREIRA D — 8380.
PEREIRA J — 4816.
PEREL'SON M E — 6090.
PERERA D Y — 2517.
PERERA M C S — 3205.
PEREZ J — 3621, 9452.
PEREZ M C — 4360.
PEREZ TABERNERO E — 2886, 2887.
PERISTIANIS G C — 569.
PERKINS L D — 6091.
PERMACHEM ASIA CO — 1817P.
PERMIN H — 1276.
PERMSKII POLYTECHNIC — 147P.
PERNICE P — 6686.
PERREAULT Z F — 2589.
PERRY D — 5153.
PERRY R — 3650, 3651.
PERSSON B — 9789.
PERSSON J E — 8176.
PETER U — 5080.
PETERS J M — 2101.
PETERS P A — 9439.
PETERS Y A — 8507.
PETERSON L — 9292.
PETHICA B A — 8686.
PETHRICK R A — 2030.
PETREUS O — 3549.
PETRIE E M — 7418.
PETROCHEM PROCESSES — 8282P.
PETROV C — 2837.
PETROV J G — 3753.
PETROVA R G — 3982.
PETROVIC Z S — 5747.
PETRUSOVA L — 7994.
PETSCHEL M — 313.
PETTETT K — 7027.
PETTY C — 2206.
PETZHOLD C — 7640.
PEZZAGNO G — 2961.
PFAFFLI P — 2090, 2108, 5368.
PFANNERSTILL P E — 6939.
PFAU J P — 6092.
PFIZER INC — 1629P.
PFLEIDERER UNTERNEHMENSVERWALTUNG GMBH — 1282P.
PFOHL F — 1608.
PFRAGNER J — 6877.
PHALLEN I J — 2980.
PHANOPOULOS C — 2846.

PHILIPS M — 5440.
PHILIPSE A P — 6153, 7737.
PHILLIES G D J — 9705.
PHILLIPS F — 5497.
PHILLIPS G — 2958.
PHILLIPS G F — 3075.
PHILLIPS PETROLEUM CO — Section 02: 4846P, 7978P. Section 24: 196P, 4136P, 9181P, 9182P, 9183P. Section 54: 3498P. Section 60: 2748P.
PHYS CHEM INST — 4847P.
PICHE L — 3746.
PICHOT C — 104, 1240, 5319.
PICKERING A — 4036.
PICKRELL J A — 4564.
PIENS M — 2682, 8571.
PIEPMEIER E H — 1964.
PIERSON R — 7809.
PIETRASANTA Y — 2327.
PIETRUSZYNSKI M — 715, 7916, 7921.
PIETSCH C — 1114, 1115.
PIETSCH S — 1062.
PIETZSCH K — 937.
PIIRMA I — 3183, 5661.
PIKE L — 6993.
PIKE R A — 4417.
PILATI F — 3184, 3239.
PILATO L A — 3235.
PILBOROUGH L — 10005.
PILHOFER T — 4621.
PILKINGTON PLC — 2602P.
PILLOT J-P — 5765.
PILYAVSKII V P — 7741.
PINCUS A H — 5441, 7810.
PINCUS P A — 4563.
PINEIRO R E — 8181.
PINELLI D — 7257.
PINNEY S G — 6994.
PINSCHMIDT R K — 2456, 2457, 6502.
PINTO J E — 7565.
PIORKOWSKI C E — 5813.
PIPOLY R — 7237.
PIRC M — 4032.
PIRES COSTA M C — 1260.
PISEV D — 9750.
PITCHERS R A — 3505.
PITH T — 8607.
PITHA J V — 5373.
PITON M C — 7306.
PLAGE B — 524, 5299.
PLANTENGA T M — 5442.
PLATH D — 8191.
PLATINA MANNENHITSU — 3408P.
PLATO N — 2048.
PLATT A E — 4015.
PLATT J D — 2888.
PLATT R — 5941.
PLATZER N — 4909.
PLEIN P — 2635.
PLISZKA G C — 2288.
PLITZ I M — 4235.
PLOEHN H J — 4560.
PLOG H — 4784.
PLUEDDEMANN E P — 267, 5327, 6412.
PLYUSNINA A I — 7386.
POCIUS A G — 5047.
POD'YACHEVA T I — 9417.
PODESTA J J — 5137, 6692.
PODESVA J — 4955.
PODHAJNY R M — 2592.
PODOL'SKAY V I — 7531.
PODOLSAK A K — 3546.
PODVOISKIS J — 8687.
POEHLEIN G W — Section 11: 822, 4016, 5666, 5669, 9054. Section 13: 3200, 4023. Section 15: 5686.
POETON T — 8836.
POINESCU I C — 8688.
POKAREV B S — 2752.
POKHMURSKAYA M V — 8050.
POKORNY S — 9071.
POLAROID CORP — 6671P, 7510P.
POLAVKA J — 6655.
POLIANSKAIA N — 6717.
POLICASTRO P P — 6995.
POLIMERKLEI IND RES — 8283P.
POLLARD J F — 1239.
POLLMAN D — 8487.
POLOWINSKI S — 112, 4955, 7072.
POLTERSDORF B — 4567.
POLUZZI A — 5154.
POLY TECHS INC — 8369P.
POLYAKOV M L — 8689.
POLYAKOVA M N — 7254.
POLYAKOVA N M — 9786.
POLYCHROME CORP — 9886P.
POLYPLASTICS CO — 7623P, 9563P, 9564P.
POLYVINYL CHEMIE HOLLAND BV — 9236P.
POMERANTSEVA E G — 8118.
PONJEE J J — 3701.
PONNUSWAMY S R — 1534.
PONTER A B — 3761.
PONY INDUSTRIES INC — 6599P.
POOLE A J — 7372.
POPE D S — 7738.
POPENDORF W — 6901.
POPESCU A — 2728, 7576, 7577.
POPESCU F — 3549.
POPLER A — 7684.
POPOOLA V A — 848.
POPOVA L P — 8241P.
POPPLEWELL L M — 7739.
POPSON S J — 6033.
PORRI L — 3212.
PORTA C — 6335.
PORTA N — 4530.
PORTE H — 3313.
PORTER M — 4141.
PORTER R S — 6152.
PORZEL A — 4119.
POSLUSNY M — 3690.
POSPISIL J — 6940.
POSSART W — 2821, 5332.
POTTER A J — 5989.
POTTER I N — 5374.
POULSEN B K — 7795.
POURBAIX A — 5155.
POURBAIX M — 5155.
POVEY M J W — 2926.
POWELL R — 5849P.
POWELL R L — 3631, 4469.
POWER K — 416.
POZZO R L — 3418.
POZZOLANO J — 5443.
PPG INDUSTRIES — Section 02: 8992P. Section 08: 8032P, 9046P. Section 14: 9068P. Section 18: 148P, 874P, 4086P, 5728P, 6474P, 6475P, 7329P. Section 22: 3303P, 3304P, 9162P. Section 24: 4137P, 6528P, 9184P. Section 32: 4994P. Section 34: 3345P, 4168P, 6543P. Section 36: 246P, 6574P, 8223P, 9237P. Section 38: 3361P, 4205P, 5802P, 6578P. Section 40: 8284P, 9274P. Section 46: 5850P. Section 50: 5891P. Section 52: 9396P. Section 54: 1802P. Section 60: 3551P, 3552P, 4391P, 5970P, 6786P, 6787P. Section 64: 5246P, 5247P, 5248P, 6020P, 8544P, 9623P, 9624P, 9625P. Section 80: 632P, 4668P, 9887P.
PPT INDUSTRIES — 2167P.
PRACHAR L — 6088.
PRADHAN P — 9646.
PRAGER F H — 6190.
PRASAD D H L — 7635.
PRASAD T P — 8970.
PRATSINIS S E — 6.
PRAUOJANEY N — 3398.
PRAVEENKUMAR T K — 1613.
PRESTIDGE C — 498.
PRESTON PUBLICATIONS — 5297.
PREVORSEK D C — 8044.
PREZIOSI L — 546.
PRICE B — 8953.
PRICE C — 2009.
PRICE G J — 2930, 9706.
PRICE M K — 5389.
PRICE S C — 570.
PRICHARD W H — 3668.

PRICL S — 1898, 2831.
PRIDDY D — 5300.
PRIDDY D B — 4032.
PRIETO GIGO A — 2931.
PRIEVE D C — 1261.
PRILLAMAN CHEMICAL CORP — 7396P.
PRINCEN H M — 3751.
PRIOLA A — 2130, 3799.
PRIORA S — 6793.
PRITCHARD T — 8642.
PRITZKER M — 6117.
PROCHOWSKA B — 5139.
PROCTOR A — 6919.
PROCTOR A R — 4401.
PROGRESS PRODN COMB — 8224P.
PROKOPCHUK S P — 2289.
PROKUNIN A N — 5268.
PRON A — 9053.
PRONOVOST J — 1982.
PRONTO I — 2729.
PROPST M — 1854.
PROSSER H J — 7224.
PROTASOV V N — 7540, 9650.
PROVDER D R — 8595.
PROVDER T — 1970, 5328, 6057, 6931.
PROZOROV E N — 2031.
PRUD'HOMME C — 6584.
PRUD'HOMME R E — 2005.
PRUD'HOMME R K — 514, 1896, 6156.
PRUETT J W — 4504.
PRUITT G W — 5433.
PRYDE C A — 5298, 6093.
PRYOR W A — 90.
PRZYBYCIEN Z — 8417.
PSYCHOYOS N — 2668.
PUCCIARIELLO R — 6996.
PUDERBACH H — 9344.
PUGH C — 1262, 4014.
PUGLISI J S — 8233.
PUJOL J M — 6584.
PUKKILA J — 2885.
PULLEY D F — 9576.
PULLIAM L — 9255.
PULLIARI L — 5048.
PULOM H — 9344.
PUNGOR E — 1214.
PURANIK V V — 5667, 7313, 7314, 9085, 9194.
PURCELL F J — 525, 8636.
PURCHASE R — 2096.
PURGETT M D — 8090.
PURNELL C J — 1224.
PURUSHOTHAM A — 9540.
PUSKAS J E — 7077.
PUTNAM R E — 2437.
PUZYAN E A — 9674.
PYATRAVICHYUS A-I V — 8596.
PYLE S M — 1207.
PYRENE CHEMICAL SERVICES — 339P, 344P, 2648P.
PYTELA O — 49, 8690, 8691.

Q

QADERI S B — 394.
QIAN H — 7494, 9707.
QIN W-Q — 1108.
QIU J H — 7474, 7475.
QUADRI I — 5880.
QUAST J F — 8718.
QUATTLEBAUM J C — 7653.
QUENNESON M E — 6584.
QUENTIN T — 1777.
QUINN F X — 2889.
QUINTAL B S — 5106.
QUINTANA J R — 1962.
QUINTIERE J G — 542.
QUIRK R P — 4894, 8051.
QUTUBUDDIN S — 816, 7713.

R

RAATE M — 89.
RABALAIS J W — 2004.
RABEK J F — 55, 832, 5608.
RABKINA A YU — 4518.
RACINIEWSKA E — 371.
RADOMSKA E — 9342, 9343.
RADTKE V — 2264.
RADWAN M A — 9740.
RADWIN M A — 435.
RAFFN E — 3777.
RAGAI J — 5621.
RAGHAVAN S — 6117.
RAGHAVAN V — 9195.
RAGHU-KUMAR S — 7578.
RAGHUVEER K S — 9838.
RAGOZINA S V — 3478.
RAHALKAR R R — 6878.
RAHIER G — 2621.
RAHLWES D — 4392.
RAHNSTER B — 7677.
RAINS W A — 7589.
RAITHEL H J — 3778.
RAJ D — 3575.
RAJ R G — 849.
RAJANBABU T V — 4047, 7995.
RAJENDRAN A G — 599.
RAJENDRAN G P — 8091.
RAJESWARA RAO Y — 6397.
RAKOVSKII O YU — 1681.
RALCHEVSKI TS L — 2844.
RALSTON H P — 9026.
RALSTON J — 8663.
RAMAKERS J A H M — 2465.
RAMAKRISHNAN S — 183.
RAMAN A — 9456.
RAMCHANDRAN T — 7539.
RAMEZANIAN M — 2282, 7996.
RAMLER W J — 5444.
RAMSAY R J — 3550.
RANBY B — Section 07: 55. Section 17: 99. Section 29: 8176. Section 49: 6629. Section 53: 1063. Section 79: 1296, 6212, 8760, 9845.
RANC M L — 8637.
RANCE D G — 2008.
RANCOURT J D — 2458.
RANDO R J — 4622, 4623, 6171.
RANDT C — 9686.
RANE M H — 1102.
RANGANNA G — 7539.
RANGEL L N — 6719.
RANKOFF D — 530.
RAO K S — 4601.
RAO V K — 117.
RAPPAPORT S M — 2962.
RAPRA TECHNOLOGY LTD — 9060P.
RAPSOMANIKIS S — 1225.
RASCIO V J D — 1094, 4361, 4362.
RASHEEDUZZAFAR - — 6682.
RASHID H U — 4470.
RASMUSSEN D — 8692.
RASMUSSEN P — 8692.
RASPOPOVA E N — 8638.
RASSELSTEIN AG — 8444P.
RASSING J — 9751.
RATCLIFFE J M — 7772.
RATHI P R — 764.
RATNAYAKE W M N — 9708.
RATNER B D — 1953.
RATZSCH M T — 3712.
RAUBACH H — 9005.
RAUDENBUSCH W T — 2544.
RAUPACH W — 5714.
RAUSCH M D — 1634.
RAUTENBACH R — 3782.
RAVAZZINI A — 4317.
RAVERDINO V — 6049.
RAWLINGS J B — 2352, 2353.
RAWLINGS R D — 6997.
RAWSON S — 2932.

RAWSTHORN A — 1379, 7904.
RAY W H — 1536, 2352, 2353.
RAYCHEM CORP — 875P, 2503P, 9061P.
READ P — 719.
READER C E L — 2402.
READY B W — 1999.
REARDON G P — 9220.
REAY W H — 7798.
REBHAN D — 4293.
RECCA A — 56.
REDDY J N — 4565.
REDDY V — 9366.
REDLICH C A — 4602.
REDLICH G H — 796.
REED A — 3424, 8749.
REED R — 5445.
REES J — 9926.
REES T — 8160.
REES T M — 2403.
REESE L — 2211.
REEVE A — 6154, 9967.
REHAB A — 9508.
REHACEK K — 1660.
REHAHN M — 8072, 8073.
REHFELDT T K — 9457.
REICHARDT C — 2244.
REICHERT K-H — 1041, 2354, 8093.
REICHMANIS E — 597.
REID I D — 813.
REID R C — 2964, 7719.
REID T — 8837.
REIF W — 1778.
REILLY J J — 1132.
REILLY P M — 1528.
REINA F — 253.
REINHARD G — 9436.
REINHARDT C F — 3780.
REINHART T J — 4215.
REISCH M S — 1360, 6271, 6272, 6273.
REISER A — 1294.
REITHAAR K — 7773.
REITTER C — Section 37: 2563. Section 47: 9334. Section 75: 8736. Section 84: 5568, 7187. Section 87: 9988.
REKLAITIS G V — 8331.
REKUS J F — 7208.
RELINI G — 3519.
REMELLI M — 9709.
REMPP P — 914.
REMPP P F — 4025.
REN D — 7387.
RENDINA G — 6969.
RENGASWAMY N S — 6728, 9458.
RENICK J B — 6181.
RENSON J E — 4624.
RENTSE L K — 8605.
REPKA G P — 7541.
RESEARCH CORPORATION TECHNOLOGIES INC — 9163P.
RESHA K — 3336.
RESHETNIKOVA L E — 9710.
RESTI M — 5108.
RETI R — 4872.
RETTBERG T M — 3672.
REVELLI A — 2128.
REVILLON A — 2355, 9711.
REYNOLDS CO — 9565P.
REYNOLDS D M — 9784.
REYNOLDS J R — 7334.
REYNOLDS M G — 2638.
REYNOLDS METALS CO — 3353P.
REYNOLDS P A — 759.
REYNOLDS W N — 5329.
REYX D — 4909.
RHONE-POULENC CHIMIE — Section 02: 783P. Section 06: 1500P. Section 08: 1516P, 8033P. Section 22: 907P, 908P, 9164P. Section 24: 197P, 2504P, 4138P, 4139P, 4981P, 6529P, 6530P. Section 56: 2741P.
RHONE-POULENC SANTE — 2481P.
RIAD M A — 2890.
RIANDE E — 5662.
RIBAK J — 7035.
RIBITSCH V — 6998.
RICARD A — 6051.
RICCA G — 4123, 9133.
RICCO A J — 1244.
RICE J A — 7680.
RICH ART COLOR CO — 8545P.
RICHARDS D W — 1491.
RICHARDS G N — 8177.
RICHARDS J R — 1547, 8061.
RICHARDS R W — 1984, 8682, 9712.
RICHARDS S — 4036.
RICHARDSON B A — 3520.
RICHARDSON M J — 1985.
RICHARDSON M R — 5966.
RICHERT M — 2659.
RICKERBY D S — 537; 8597.
RICKIE G K — 7280.
RICOH CO — Section 42: 5836P, 6604P, 6605P, 6606P. Section 44: 2603P, 3409P, 4243P, 5071P, 5072P, 6612P, 6613P, 9320P. Section 80: 7114P, 9888P.
RIDGWAY K — 3759.
RIDGWAY L V — 10006.
RIDING K D — 7808.
RIDOUT G — 9459.
RIDOUT P S — 1986.
RIEBER W — 222.
RIEDEL K — 4519.
RIEDELL A — 5109.
RIEDIKER M — 4631.
RIEDNER U — 4854.
RIEGER - — 2277.
RIEKE R D — 7997.
RIEPL G — 6608.
RIERA TUEBOIS J — 9713.
RIESEN R — 295.
RIESS G — 7078.
RIETBERG J VAN ROON J H — 8092.
RIETZ G — 4561, 5330, 6155.
RIIHIMAKI V — 2090, 5368.
RIKEN CORP — 5635P.
RILEY P J — 2870.
RIMAN R E — 763.
RINALDI F — 4274.
RINAUDO M — 7643.
RINEHART S C — 1772.
RING T A — 2012.
RINGSDORF H — 598.
RINNO H — 2545.
RINREI CO — 3354P.
RIOS L — 9064.
RISBERG J — 7021.
RITTER G — 509.
RITZERT H-J — 3280.
RITZOULIS G — 2905.
RIVA M — 1680.
RIVOLTA G — 5391.
RIYAZUDDIN P — 6094.
RIZZARDO E — 1532, 2345, 5732.
RIZZO E M — 3479.
RIZZO F E — 379.
ROACH S A — 2962.
ROBARDS K — 3691.
ROBB I D — 2032.
ROBBINS D A — 5946.
ROBBINS M — 3576.
ROBBINS M C — 2096.
ROBELLO D R — 5745.
ROBERTS A F — 4385, 6781.
ROBERTS D J — 6188.
ROBERTS R A — 3719.
ROBERTSON I H — 7691.
ROBERTSON R M — 3692.
ROBERY P C — 2768.
ROBIN J J — 5761.
ROBINSON C J — 5375.
ROBINSON E T — 5610.
ROBINSON G — 1508.
ROBINSON M — 4595.
ROBINSON M K — 9790.
ROBINSON P J — 5399.
ROBINSON R C — 2670, 7542.

ROBISON G T — 6656.
ROBSON M A — 1098.
ROBU C — 2546.
ROCHA M G — 3282.
ROCHE A — 5269.
ROCHESTER C H — 2891.
ROCKETT T J — 6791.
RODD P D — 4475.
RODELLAS F — 7495.
RODRIGUEZ E L — 1563.
RODRIGUEZ F — 846, 6978.
RODRIGUEZ V S — 4562.
ROELOFSEN A M — 9776.
ROELS M — 573.
ROESLER R — 5196.
ROGER A — 9128.
ROGERS C E — 4314.
ROGERS R S C — 1024.
ROGLER W — 1297.
ROGOVIN Z — 2622.
ROHDE O — 4631.
ROHE D — 2212, 6274, 6285.
ROHM & HAAS CO — Section 08: 811P. Section 12: 7294P. Section 18: 876P. Section 34: 215P, 216P, 9213P.
ROHM GMBH — 6476P, 8057P, 8498P.
ROHN C — 2307.
ROHN C L — 1189, 9752.
ROHR D F — 850.
ROKHGAR R — 6398.
ROKICKI G — 9086.
ROLAND W A — 1040.
ROLLINSON CONSULTANTS — 6720.
ROLLS-ROYCE PLC — 4446P.
ROMAGNOLI R — 4318, 4322, 4531.
ROMAN'KOV V A — 9460.
ROMAND M — 5269.
ROMANOVA M K — 7792.
ROMANOVICH YU K — 107.
ROMER M — 992.
RONA M — 1284.
RONCALI J — 4124.
RONCO LABORATORIES INC — 6755P.
ROOF WATER-INSULAT — 9500P.
ROONEY C — 3876, 3877, 3878.
ROONEY J M — 2459.
ROSANO H L — 7712.
ROSE F — 9791.
ROSE P — 4886.
ROSE V — 6791.
ROSE-PEHRSSON S L — 3693.
ROSEN G — 5392.
ROSEN L — 1952.
ROSENBERG N — 4582.
ROSENDALE D — 6859.
ROSENGREN L E — 7774.
ROSENSTEIN J M — 9367.
ROSENTHAL L A — 2106.
ROSESU L — 3549.
ROSIN J — 2107.
ROSLANIEC Z — 6095.
ROSOVIZKY V F — 497.
ROSS P — 6679.
ROSSI G — 4563.
ROSSITER V — 9714.
ROSTOV MACH CONS TECH — 8370P.
ROSTOV UNIV — 8225P.
ROT A S — 2131.
ROTENBERG Y — 8696.
ROTHENBERG S J — 4564.
ROTHER J — 1809.
ROTHWELL G — 8513.
ROTHWELL G W — 6691.
ROTRING-WERKE RIEPE KG — 9304P.
ROTTMANN H R — 3723.
ROTZINGER B — 4631.
ROUDET J — 8052.
ROULIN-MOLONEY A C — 2607.
ROULLET R — 2547.
ROUSSELIN X — 4582.
ROUTS A — 2033.
ROUXHET P G — 8661.
ROVNER I — 1263.
ROWLAND D Y — 1269.
ROY R B — 526, 1987.
ROY S — 4565, 5861.
ROYAL CARE BEAUTY PRODUCTS INTERNATIONAL INC — 5897P.
ROYAL SOCIETY OF CHEMISTRY — 7221.
ROYAL SOCIETY OF CHEMISTRY ANALYTICAL METHODS COMMITTEE — 1988.
ROYSE S — 586, 3786.
ROZENTAL N K — 380.
ROZENZWEIG E — 7458.
RUBINSTEIN M — 8598.
RUBINSZTAJN S — 184.
RUBTSOV A E — 6060.
RUCKENSTEIN E — 93, 6148.
RUDDICK D H — 6374.
RUDDY M — 7727.
RUDIN A — 1982, 2356, 2538, 4539, 8197.
RUDKOVSKII V V — 7471.
RUDNENKO E V — 7799.
RUDOLPH A C — 4640, 7775.
RUHE J — 4959.
RUHL C — 9677.
RUHLMANN K — 4119.
RUIZ P — 6074.
RUMYANTSEV V D — 5831P.
RUNCIMAN P — 4036.
RUNGLE E M — 7034.
RUOHOMAKI J — 6702.
RUPA W — 3347.
RUPIEPER P — 2811, 2817.
RURGERS KUREHA SOLVENTS GMBH — 5640.
RUSAN V — 5715.
RUSH S — 492.
RUSS J C — 1263.
RUSSEL W B — 1261, 4560, 6156.
RUSSELL A — 6375, 6628.
RUSSELL G — 8260.
RUSSELL K E — 118.
RUSSELL T P — 187.
RUSSO P S — 6127.
RUSSO S — 3182.
RUSTERHOLZ W E — 6096.
RUTGERSWERKE AG — 5183P.
RUTHERFORD D — 2730.
RUTHERFORD D R — 4125.
RUVOLO A (JR) — 6972.
RYAN A J — 3293.
RYAN B — 9127.
RYAN K — 2932.
RYAUZOV A G — 2031.
RYDIN S — 3694.
RYE R R — 884, 7496.
RYMDEN R — 543.
RYNTZ R — 8418.
RYNTZ R A — 2364.
RYZHOV V A — 9517.

S

S A B A H SA — 1168P.
SAARNAK A — 2663, 2664, 6708.
SABATELLI D C — 1202.
SABLINA T G — 7800.
SABO L O — 362.
SABROE S — 5376.
SACHDEV K G — 6889.
SACK R — 4641.
SADA K — 5735.
SADKOWSKI A — 3480.
SADLER D M — 1989.
SADYKOV R M — 7228, 8971.
SAEGUSA T — 202, 5735, 7275.
SAENGER K L — 6162, 8599.
SAENGRATANADEJ S — 3398.
SAFERSTEIN R — 7654.
SAFRIEL U N — 9518.
SAGAMI CHEMICAL RESEARCH CENTRE — 1878P, 8806P.

SAGE D — 3722.
SAGER P R — 5599.
SAGUES A A — 1064, 9461, 9479.
SAHARA A — 4737.
SAHNI S K — 3309.
SAIGO K — 191, 9173.
SAIHAN E — 2074.
SAINT-GOBAIN EMBALLAGE — 6672P.
SAINT-GOBAIN VITRAGE — 475P.
SAITO T — 2917.
SAKAKI S — 889.
SAKAKIBARA S — 2404.
SAKALOS S — 8001.
SAKAMOTO H — 8204.
SAKAMOTO M — 393, 419.
SAKAMOTO Y — 3234.
SAKAMOTO YAKUHIN CO — 4940P.
SAKATA INKS CO — 9305P.
SAKATA INKUSU CHEMICAL INDUSTRY CO — 6520P.
SAKHAROV YU I — 7471.
SAKHNENKO N D — 9462.
SAKKINEN P A — 9671.
SAKOLOVA L V — 8062.
SAKURA CRAPAS CO — 427P, 4153P.
SALAMONE J C — 3317.
SALAS C — 6286.
SALAS E — 6287.
SALAZAR-ROJAS E M — 4520.
SALEM L — 9645.
SALIM M S — 3001.
SALIM S — 3810.
SALIN E D — 4523.
SALLES F — 9959.
SALMAN A D — 6879.
SALON M C — 2405.
SALOVA O N — 9435.
SALTZMAN B E — 7668.
SALVADORI O — 3521, 5574.
SALVATI L (JR) — 6111.
SALZMANN P H — 6189.
SAMAD E A A — 1530.
SAMDAL O R — 9577.
SAMPATHKUMARAN P S — 1613.
SAMPO S — 7579.
SAMUEL A M — 8733.
SAMUELS S J — 4593.
SAMUKAWA H — 8659.
SAN NOPCO CO — 930P, 931P.
SANCHEZ A — 6693.
SANCHEZ-CHAVES M — 6964.
SANCIER K M — 1464.
SANDACOMP INVESTMENTS LTD — 633P.
SANDER L C — 527.
SANDERS J G — 9669.
SANDHU S S — 2523.
SANDLAND R — 2034.
SANDLER S I — 2018.
SANDMARK B — 5377.
SANDOR T L — 254.
SANDOZ LTD — 70P, 8010P.
SANEI KAGAKU KOGYO CO — 944P.
SANLUKE CO — 5940P.
SANSUI CO — 9626P.
SANTAGOSTINO G — 4581.
SANTER J O — 5910.
SANTHA L — 2907.
SANTHAKUMARAN L N — 7578.
SANTON R C — 6196.
SANTORE M M — 6156.
SANTOS R — 3505.
SANYO CHEMICAL INDUSTRY CO — Section 08: 1517P. Section 12: 1546P. Section 18: 1591P, 4087P, 4941P. Section 22: 179P, 1630P. Section 24: 5767P. Section 36: 9238P. Section 42: 1006P. Section 50: 8371P. Section 54: 2712P, 9501P. Section 64: 476P, 4447P.
SANYO COLOR WORKS LTD — 7979P.
SANYO ELECTRIC CO — 1847P.
SANYO KOKUSAKU PULP CO — 5210P, 7822P.
SANYO SHIKISO CO — 8993P.
SAPERSTEIN D D — 4521.
SAPRU V — 7739.
SARANDA CONSOLIDATED LTD PARTNERSHIP — 1706P.
SARGENT J D — 794.
SARKAR R — 7338.
SARMA V G — 6711.
SARMAJTIS R — 5107.
SAROJINI R — 7934.
SARRAFI M — 3635.
SASABE H — 4887.
SASAKI H — 2616.
SASSE H R — 6190.
SASTRE R — 4011, 4870, 6157, 8757.
SASTRI V R — 4919, 8132.
SASTRI V S — 8639.
SATAS D — Section 39: 8261, 8262. Section 63: 8514. Section 67: 499, 8600. Section 83: 8838, 8839.
SATHYAMURTHY N — 4319.
SATO E — 8640.
SATO H — 6941, 7685.
SATO M — 6492, 7761.
SATO N — 6942, 9463.
SATO S — 1459, 8546P.
SATO T — 110, 8628.
SATOH A — 3236.
SATOH M — 1721.
SATOH N — 321.
SATPATHY U S — 116.
SATPATHY Y S — 3185.
SATTI A K — 8716.
SATTLER E — 2769.
SATUSHEV S A — 1460.
SAUDER L R — 2963.
SAUERBRUNN S R — 5331.
SAUNDERS G K — 8171.
SAUNDERS K J — 741.
SAUVET G — 2357.
SAVAGE P R — 7152.
SAVIN R R — 2683.
SAVOLAINEN H — 2108.
SAVOSTIANOFF D — 1361, 5512, 6319, 9920, 9960.
SAWAKI Y — 5339.
SAWAMOTO M — 2393, 7311, 9087.
SAWAN S — 5156.
SAX B-M — 6999.
SAX N I — 742.
SCALI C — 3419.
SCAMEHORN J F — 7050.
SCANTLEBURY J D — 6861, 7008.
SCARLATTI A N — 95.
SCARLETT B — 3752.
SCARLETT T — 3399.
SCHAAKE R C F — 2933.
SCHAAP F — 220.
SCHADE C — 94.
SCHAEFFER W R — 5110.
SCHAFER H J — 789.
SCHALCH E — 6098.
SCHAMBERG E — 363.
SCHANZE K S — 2305.
SCHAPER K L — 5378.
SCHAPFER K — 4455.
SCHARFENBERGER J — 4275.
SCHAUBER C — 7078.
SCHEDLITZKI D — 4209.
SCHEETZ F M — 4292P.
SCHEFFER T C — 2731.
SCHELLY Z A — 8703.
SCHERNAU U — 1990.
SCHIEMANN — 7524.
SCHIESSL P — 7543, 7544.
SCHILLER K — 3003.
SCHILLING F C — 7357.
SCHILLING M S — 5918.
SCHIMPF M E — 3666, 6097, 8693.
SCHINDLER J S — 9697.
SCHINN D R — 7511P.
SCHISSEL P — 3995.
SCHLADEMAN J A — 5814, 8263.
SCHLAGER S T — 3425.
SCHLICK S — 4496, 5668.

SCHLOSSER G — 4700.
SCHLOTTER N E — 1991.
SCHLUTER A-D — 2443, 5685, 8072, 8073.
SCHMALBACH-LUBECA AG — 258P.
SCHMELZER H — 1181.
SCHMELZER J — 1461.
SCHMID D — 5359.
SCHMID E V — Section 53: 1779, 2684, 6721. Section 63: 5990, 6810. Section 99: 743.
SCHMIDBAUER H — 2838.
SCHMIDT C U — 8093.
SCHMIDT D L — 7358.
SCHMIDT G H — 5950.
SCHMIDT R — 5588.
SCHMIDT R G — 5650, 6039, 6416P.
SCHMIDT S J — 7123, 7834.
SCHMIEDING S A — 1255.
SCHMITT F — 2460.
SCHMITZ B — 2686.
SCHMITZ G — 5010.
SCHMITZ O J — 3091.
SCHMITZ V — 2038.
SCHNABEL W — Section 11: 6429. Section 47: 296, 5855. Section 77: 7065, 7066, 9826. Section 79: 5456. Section 87: 1399.
SCHNABLE J G — 8623.
SCHNALL M — 8017, 8183.
SCHNEIDER A — 381.
SCHNEIDER W — 6098.
SCHNIEWIND B-J — 2685.
SCHNOLL-BITAI I — 2999, 9842, 9843.
SCHOBER B J — 1257.
SCHOFF C K — 1191.
SCHOKKIN E — 7581.
SCHOLTEN H P H — 2406, 8094.
SCHOLTEN J J F — 2920.
SCHOLTENS B J R — 87.
SCHOLZ F — 5257.
SCHON G — 6999.
SCHON M — 8191.
SCHONBACHER H — 5913.
SCHONHORN H — 7419.
SCHOONMAN J — 3752.
SCHOPOV I — 9070.
SCHORK F J — 80, 5666.
SCHOSSELER F — 4566.
SCHRADER S — 1226.
SCHRAMM B — 6371.
SCHRANT J — 699.
SCHRANTZ J — 7209.
SCHREIBER H P — 2923.
SCHREIBER P — 8419.
SCHREIFELS J — 9464.
SCHREYER M — 6943.
SCHROCK R R — 9069.
SCHROEDER J A — 1190.
SCHROEDER W — 8488.
SCHUBERT P — 9715.
SCHUBERT T T — 2966.
SCHUCHARDT U — 3133.
SCHUE F — 4026, 4642.
SCHUESSLER P — 5156.
SCHUESSLER R L — 9447.
SCHUHLE U — 6937.
SCHULDE F — 2608.
SCHULENBERG F — 700, 701, 702, 1380.
SCHULER D — 57.
SCHULTE V E — 7255.
SCHULTEN H — 5299.
SCHULTEN H-R — 524.
SCHULTZ A J — 2981.
SCHULTZ D L — 7849.
SCHULTZ J — 3632, 8071.
SCHULZ D N — 89.
SCHULZ G V — 4641.
SCHULZ R C — 4103.
SCHULZE R-D — 5332.
SCHUMACHER A — 1451.
SCHURZ J — 4548, 6981, 6998.
SCHUTZ H-J — 6811.
SCHWAB F C — 6966.
SCHWAB G — 1535.
SCHWAHN H G — 6371.
SCHWALM H — 5111.
SCHWARZ G — 1560.
SCHWARZ J A — 8683.
SCHWARZENBACH E — 4103.
SCHWEITZER G K — 1060.
SCHWEIZER A — 5379, 7036.
SCHWEIZER P M — 6040.
SCHWETLICK K — 7277.
SCHWIDERKE E E — 5137, 6692.
SCHWINDT R — 2829.
SCHWOPE A D — 2964.
SCHWUGER M J — 6999.
SCIENCE — 5575.
SCISLOWSKI S — 5112.
SCOPES HERMAN — 2213.
SCOTT B D — 5428.
SCOTT BADER CO — 5832P, 5833P.
SCOTT C D — 528.
SCOTT C M — 5610.
SCOTT G — 2306, 7281.
SCOTT I H — 7926.
SCOTT J A — 8234.
SCOTT W E — 6967.
SCOTTISH HOME AND HEALTH DEPARTMENT — 4765, 9981.
SCRAGG A M — 39.
SCRIVENS J H — 3714.
SCULLY J — 9433.
SDS BIOTECH CO — 2604P.
SE K — 4895.
SEAL K J — 3525.
SEATON A — 6191.
SEBASTIAN S A R D — 8067.
SEBASTIAN T — 8152.
SEBE I — 7238.
SEBEDIO J L — 7256.
SEBENDA J — 2461.
SEBENIK A — 4522.
SEDEV R V — 3753.
SEDGWICK R D — 1957.
SEDLACEK B — 8694.
SEDLAK J A — 8133.
SEFERIS J C — 6036.
SEGAWA A — 7304.
SEHGAL K C — 3371.
SEHOVIC H — 5748.
SEIBEL L — 9575.
SEIBT VERLAG GMBH — 6366.
SEIDEL H — 7188.
SEIDMAN H — 7035.
SEIFERT C — 4033.
SEIFFARTH J — 8612.
SEIJI K — 2954.
SEIKA SANGYO CO — 1479P.
SEIKO CHEMICAL INDUSTRY CO — 2559P.
SEIKO EPSON CO — 1007P.
SEITETSU CHEMICAL INDUSTRY CO 259P, 2560P, 2749P.
SEITZ W — 5908.
SEKHARAN K V R — 2518.
SEKI T — 7000.
SEKISUI CHEMICAL INDUSTRY CO — Section 40: 5053P, 6600P. Section 50: 340P. Section 54: 4348P. Section 64: 3593P, 3594P, 6021P, 6838P.
SEKLER J — 8601.
SELDEN A I — 8719.
SELDEN R — 1891.
SELECT COMMITTEE ON THE EUROPEAN COMMUNITIES — 4768.
SELIGMAN P F — 6203.
SELIKOFF I J — 7035.
SELIM A — 2279, 9508.
SELKE E — 9678.
SELL J — 5221, 5919.
SELL'S PUBLICATIONS LTD — 4801.
SELLAKUMAR A R — 9792.
SELLORS J — 7691.
SELTZER B — 3779.
SELVARAJ M — 9465.

SELVIN S — 2962.
SEMCHIKOV YU D — 7307.
SEMINA R A — 7254.
SEMLYEN J A — 6131, 7720.
SENATRA D — 2915.
SENDIJAREVIC A — 5748, 8137.
SENDIJAREVIC V — 5748, 8137.
SENG H P — 3811, 4643.
SENGUPTA P K — 8762.
SENGUPTA T K — 8053.
SENTURIA S D — 7001.
SENUMA M — 8454.
SENZANI A — 4276.
SEQUA CHEMICALS INC — 9566P.
SEQUA CORP — 279P.
SERAFIMOV B — 2837.
SERAFIMOV B L — 265.
SERGENT T — 6979.
SERICOL GROUP LTD — 4669P, 4670P.
SERMAN C J — 6125.
SERMATECH INTERNATIONAL INC — 477P.
SERNA C J — 1193.
SERRANO D — 4918.
SERVAIS J P — 2686.
SESANA G — 6099.
SESSLER J L — 8763.
SETH P K — 9793.
SETH P N A — 5219.
SETHI S M — 977.
SETO J — 767.
SETTERQUIST R A — 2941.
SETTLEMOYER A C — 6989.
SETZER J V — 4576.
SEXTON C M — 2727.
SEYMOUR R B — 4147, 6454.
SFYRAKIS J — 2035, 2036.
SHAABAN A F — 192, 8161.
SHAFER S J — 3226.
SHAH D N — 3372.
SHAH J — 7545.
SHAH K J — 9000.
SHAH P P — 4957.
SHAH S — 948.
SHAH T B — 3186.
SHALAT S L — 3779.
SHAMA S A — 5333.
SHAN A — 1227.
SHANGHAI PATENT AGENCY — 7909.
SHANI A — 9008.
SHANKLE R — 2965.
SHANTHA K L — 7420, 7998.
SHAPIRO M — 5393.
SHAPOSHNIKOV YU K — 7804.
SHAPOVAL G S — 6722, 7520.
SHAPOVAL H S — 4263.
SHARAF M A — 1638.
SHARKEY A G — 2902.
SHARMA A K — 5113.
SHARMA A P — 417.
SHARMA S N — 9515.
SHARMAITIS R R — 6657.
SHARMAN J D B — 6723.
SHARP D L — 5784.
SHARP J L — 8737.
SHARP J V — 9466.
SHARP W B — 9794.
SHARPE L H — 3102.
SHASTRY C R — 5920.
SHATOKHINA V N — 6066.
SHAVERNEV G I — 9384P.
SHAW G S — 9753.
SHAW J — 1285, 7546.
SHAW J C — 1106.
SHAW R J — 4386, 6782.
SHAW S J — 1264.
SHEA K J — 2379.
SHEDRINSKY A M — 4910.
SHEIH P S — 8095.
SHEIKMAN F P — 7980P.
SHEKHTER YU N — 6533.
SHELL INTERNATIONALE RESEARCH MIJ — Section 10: 2315P. Section 18: 149P, 2435P, 4942P, 5729P, 5730P, 7330P. Section 22: 6521P. Section 28: 1644P. Section 36: 971P.
SHELL OIL CO — Section 18: 877P, 878P, 1592P, 9120P. Section 34: 7381P. Section 36: 9239P. Section 40: 9275P, 9276P. Section 64: 6839P.
SHELLEY M L — 4603.
SHELUDYAKOV V D — 3984.
SHEN G-C — 7459.
SHEN J J — 6944.
SHEN T — 7958.
SHEPARD D D — 2014.
SHEPHERD W — 6724.
SHEPPARD N F — 7001.
SHEREX CHEMICAL CO — 9327P.
SHERMAN A M — 2830.
SHERMAN P — 5114.
SHERWIN-WILLIAMS CO — 4169P.
SHEU H R — 7290.
SHEVCHUK V U — 2289.
SHIBAMOTO T — 2883.
SHIGA S — 7686.
SHIH H — 1065.
SHIKOKU CHEMICAL INDUSTRY CO — 2436P, 3355P, 3850P.
SHIKOKU KAKEN KOGYO CO — 1879P, 4369P.
SHIMANO Y — 9077.
SHIMIDZU H — 115.
SHIMIZU CO — 247P, 5794P.
SHIMIZU H — 7687.
SHIMIZU I — 6941.
SHIMIZU N — 9846.
SHIMIZU Y — 4101.
SHIMOKAWA T — 4737.
SHIN NIPPON KAGAKU CO — 5971P.
SHINDY H A — 7955.
SHINETSU CHEMICAL INDUSTRY CO — Section 06: 1501P. Section 08: 6423P, 8034P. Section 12: 827P. Section 18: 1593P, 3270P. Section 34: 945P. Section 36: 5795P. Section 40: 1701P. Section 44: 9321P. Section 52: 9397P. Section 56: 9531P. Section 64: 2800P, 7624P. Section 80: 2168P, 2169P, 2170P, 5485P, 8807P.
SHINFUJI SEISHI CO — 9306P.
SHINKARCHUK V N — 9517.
SHINKO KAGAKU KOGYO — 1518P, 5657P.
SHINSOZAI SOGO KENKYU — 9385P.
SHINTO PAINT CO — 972P, 973P, 1818P, 2801P, 5028P.
SHINTRE S N — 7986.
SHIODA S — 5029P.
SHIOTA T — 1186.
SHIPULINA Z V — 9718.
SHIRAI M — 3812.
SHIROGANE Y — 4272.
SHIRONO H — 3109.
SHISEIDO CO — 3127P.
SHIUNDU P M — 1228.
SHKLYAROK B F — 3318.
SHLYAPINTOKH V Y — 5648.
SHLYAPNIKOV YU A — 7291.
SHMORHUN M — 2892.
SHODA S-I — 9077.
SHODE L G — 1565, 7315, 7318, 7740, 9196.
SHOENMAKERS J — 9907.
SHOFSTAHL J H — 8641.
SHOHI H — 9087.
SHOKUBAI CHEMICAL INDUSTRY CO — 1480P.
SHOKUBAI KASEI KOGYO — 1169P.
SHORE R E — 6174.
SHORIN CO — 1880P.
SHORIN P — 6607P.
SHORT F T — 5387.
SHORT H — 7234.
SHORT H C — 2214.
SHORT J W — 8737.
SHORT N R — 2637, 3447, 6725, 7528.
SHORT R D — 8642.
SHOSTKA CHEM PHOTO — 8306P.
SHOWA ALUMINIUM CO — 6756P.
SHOWA CO — 3456P.

SHOWA DENKO CO — Section 02: 3128P. Section 16: 1554P. Section 18: 150P, 4943P, 4944P, 6477P, 6478P, 6479P. Section 20: 160P. Section 22: 5759P. Section 24: 3327P. Section 34: 946P, 1655P. Section 40: 9277P, 9278P. Section 44: 1016P. Section 54: 9502P. Section 62: 1125P. Section 64: 1170P.
SHOWA ELECTRIC WIRE CABLE CO — Section 38: 5036P. Section 40: 9279P. Section 54: 5175P. Section 58: 430P, 4374P. Section 60: 2750P, 2751P. Section 64: 3595P, 4448P, 6022P.
SHOWA HIGH POLYMER CO — Section 18: 151P, 152P, 153P, 154P, 7331P. Section 34: 9214P. Section 42: 9307P. Section 54: 8445P. Section 60: 438P. Section 64: 478P, 8547P, 8548P, 8549P. Section 80: 1323P, 9889P.
SHOWA SHELL SEKIYU CO — 9240P.
SHREIDER A V — 382.
SHREVE D R — 9386P.
SHROCK P H — 8726.
SHTANOV N P — 34P.
SHTURMAN A A — 5976.
SHTURMAN A H — 1837.
SHU H-X — 4200.
SHU W-J — 2124.
SHUGARD A — 597, 3815.
SHUKLA A K — 3240.
SHUKLA G S — 7037.
SHUKLA M C — 1657.
SHUKLA R — 4576.
SHULER W — 7038.
SHUMYATSKII E B — 7801.
SHURVELL H F — 6047.
SHUSTOV G B — 8082.
SHYU S-S — 3187.
SHYY I-N — 1541.
SIBIRSKII ACADEMY OF SCIENCE IRKUT ORG — 7269P.
SICCARDI R — 6680.
SICKFELD J — 7547.
SICPA HOLDING SA — 2593P.
SIDDLE G R — 659.
SIDES S R — 3082.
SIDORENKO A I — 2724.
SIDORENKO L P — 2724.
SIEBERT A — 5048, 9255.
SIEBERT R — 7948.
SIEGEL M M — 2893.
SIEGEL S B — 5115, 5446.
SIEGER W — 8351.
SIEGMANN A — 5734.
SIEMENS AG — 3851P.
SIEVERDING D L — 9280P.
SIGINER D A — 3633, 3634.
SIGSBY J E (JR) — 1996.
SIGWALT P — 2357.
SIIVONEN E — 3813.
SIKES C S — 8403.
SIKKEMA D J — 3284.
SIKORSKI A — 8697.
SILBERLINE MANUFACTURING CO — 6390P.
SILEBI C A — 3228, 4562, 6871, 8695.
SILK N J — 5943.
SILK S — 7220.
SILLION B — 890, 3294.
SILMAN H — 5222.
SILVER M — 4587.
SILVERMAN D C — 9467.
SILVERMAN D T — 2959.
SILVERMAN J — 3814.
SILVERSTEIN M — 1277.
SILVERSTEIN M S — 6435.
SIM E K — 2822, 5863.
SIMANCAS J — 7491.
SIMHA R — 2892.
SIMHONY S — 2894.
SIMIONESCU C I — 5715.
SIMITZIS J — 2035, 2036, 2407, 8096.
SIMMERSON H — 4402.
SIMMONS G C — 3577, 8515.
SIMMONS T — 7460, 7461.
SIMOES A M P — 2729.
SIMOFF D — 5334.
SIMOFF D A — 595.
SIMON P — 6100.
SIMONEIT B R T — 7055.
SIMONS M E — 8813.
SIMPSON C — 2595.
SIMPSON C F — 5326.
SIMPSON L A — 2658, 2687, 5260, 6034, 6858.
SIMPSON M — 9714.
SIMPSON V P — 2670.
SIMSON W — 668, 7189.
SINCLAIR J D — 8395.
SINCLAIR R — 3094.
SINEOKOV A P — 9088.
SING R L A — 4523.
SINGER K — 9001, 9005.
SINGH A — 3002.
SINGH B — 8133.
SINGH G — 9577.
SINGH J — 7580, 8864, 9651.
SINGH K — 4363.
SINGH P — 5693.
SINGH R — 4363.
SINGH R P — 117, 3616.
SINGLETON R — 5921, 6726.
SINHA B — 6966.
SINHA B R — 9716.
SINHA S — 9002.
SINKA J V — 5447.
SINNING B — 4701, 5856.
SINTON S W — 4510.
SIOW K S — 9706.
SIPERKO L M — 7497.
SIRDESAI S J — 5189, 5967.
SIROST J-C — 271.
SISSON W G — 528.
SITARAMAM B S — 4057, 4216.
SITEK F — 3997.
SITTENTHALER W — 2491, 5922, 8205.
SIVASANKARAN G — 4319.
SJOERDSMA S D — 6880.
SJOSTROM E — 8633.
SKELLAND A H P — 4256.
SKELLY N E — 5300.
SKERFVING S — 2091, 7033, 7769.
SKERRY B S — 383, 384, 385, 1780.
SKINNER F K — 8696.
SKINNER J — 3448.
SKOLNICK J — 8697.
SKOROKHODOV S S — 8097.
SKOROKHODOVA O N — 1564, 7316.
SKROVANEK D J — 1191, 4524, 8643.
SKUDELNY D — 3959.
SKUTILOVA I — 7684.
SKY ALUMINIUM CO — 5176P.
SLADE C W — 486.
SLADE R C T — 8644.
SLAUGHTER A — 2958.
SLAVIK J — 6158.
SLEET R B — 2109.
SLEETER R T — 3695.
SLOB C — 6453.
SLOMKOWSKI S — 2351, 2401.
SLONIM I YA — 1229.
SLOWIKOWSKI W H — 3037.
SLUTZKY O — 4460.
SMALL G W — 2850, 6894.
SMALL PRODUCTS LTD — 7115P.
SMART G — 4802.
SMEAL T W — 6789.
SMELT P J — 3736.
SMETS G — 4629.
SMID T — 7581.
SMIDT F A — 8349.
SMIESZEK E — 353, 1727, 2250, 8420.
SMIRNOVA L — 3703.
SMIRNOVA L L — 7582.
SMITH A — 7282, 9961.
SMITH A B — 6673P.
SMITH A G — 1781.
SMITH B W — 6101.
SMITH C G — 7688.

SMITH C I — 4387, 6783.
SMITH D G — 2891.
SMITH D M — 4525.
SMITH G A — 1904.
SMITH G D W — 4486.
SMITH G F — 10004.
SMITH H E M — 6723.
SMITH H G — 7428.
SMITH H K — 6945.
SMITH H M — 2688.
SMITH J A — 2057.
SMITH K — 519, 8698.
SMITH K N — 2967.
SMITH K R — 2037.
SMITH L M — 9368.
SMITH L S A — 2038.
SMITH M — 509.
SMITH M J — 9717.
SMITH N J — 8733.
SMITH R D — 4526, 4527.
SMITH R M — 6053.
SMITH R N — 3953.
SMITH S D — 4058.
SMITH T J — 9688.
SMITH W H — 7625P.
SMITS C — 7737.
SMOLDERS J F J — 6936.
SMYTH G — 2889.
SNEDDON A D — 6727.
SNIR M — 5050, 6159.
SNOOK R D — 3696, 5291.
SNYDER A P — 1233.
SNYDER C A — 9792.
SNYDER G D — 8561.
SNYDER G-L — 5881.
SNYDER R W — 5749.
SOBAGAKI H — 2814, 2815, 2816.
SOBCZAK R — 8588.
SOBIESKI L A — 3373.
SOCIETE CHIMIQUE DES CHARBONNAGES SA — 1594P.
SOCIETE FRANCAISE BITUMASTIC SA — 6840P.
SOCIETE FRANCAISE HOECHST SA — 8113P.
SOCIETE SUISSE DES INDUSTRIES CHIMIQUES — 6288.
SOCIETY OF AUTOMOTIVE ENGINEERS — 9999.
SOCIETY OF DYERS AND COLOURISTS — 765, 3110, 4817, 5609, 7239.
SOCIETY OF MANUFACTURING ENGINEERS — 255.
SOCIETY OF MOTOR MANUFACTURERS AND TRADERS LTD — 571.
SODERKVISK P — 9781.
SOFRONOV V G — 7741.
SOGAH D Y — 3193, 4047, 4059.
SOHIESKI L A — 8264.
SOHMA J — 4471.
SOHN J E — 8699.
SOKEN KAGAKU CO — 3388P, 3852P.
SOKO D R — 8350.
SOKOLETSKII L G — 7741.
SOKOUSHIN V I — 7462.
SOKOVNIN O M — 4277.
SOLIMENO R D — 9642.
SOLOMON D H — 2343, 2344, 2345.
SOLOSKI E J — 2463.
SOLOVEI G G — 3318.
SOLTENBERG J — 2977.
SOLTI A — 10003.
SOLVAY & CIE — 1717P.
SOLVENTS INDUSTRY ASSOCIATION — 2245.
SOMAR MANUFACTURING CO — Section 38: 1687P, 3362P, 3363P, 8242P. Section 40: 9281P. Section 42: 1008P. Section 58: 431P, 432P, 1825P, 1826P. Section 80: 7116P.
SOMASUNDARAN P — 3754.
SOMBERG H — 3697.
SOMMER G — 4803.
SOMMER L — 3659.
SOMORJAI G A — 5278.
SONG C H — 5903.
SONG H — 8064.
SONG K-H — 2462.
SONG Z — 822, 4016, 5669, 5686.
SONN G — 7959.
SONY CORP — 1017P, 3853P.
SOO K W — 3874.
SOOS L — 2564.
SOROKIN M F — Section 17: 1565, 7315, 7317, 7318. Section 31: 9196. Section 37: 1681, 9246. Section 69: 7689. Section 75: 7802.
SOROKIN V E — 1028.
SORVIK E M — 5874.
SOST A — 6195.
SOTELO M — 8070.
SOULES D A — 2832, 6881.
SOUM A — 544, 4900.
SOUPROUNOVICH A N — 8338.
SOUSA J M — 3502.
SOUTAR I — 9125.
SOVOS'KIN V M — 3241.
SOWELL D A — 7056.
SOZZANI P — 3167, 4044.
SPADAFORA S J — 545, 9468.
SPAEDY S — 2966.
SPAGNOLI D — 7548.
SPANN W E — 7453.
SPARROW J E — 486, 7634.
SPASSOV S L — 530.
SPEAR M — 6102.
SPEARS K N — 6101.
SPECK C E — 2638.
SPENCE J — 4325.
SPENCER H G — 9685.
SPENCER J E D — 6887.
SPENCER R — 1607.
SPERLIN L H — 6935.
SPERLING L H — 2317, 2358, 2381, 4017, 6103.
SPEVACEK J — 9071.
SPILLE J — 3091.
SPINDLER H — 6358.
SPINU M — 912, 4126.
SPIPES I G — 8709.
SPIRES G V — 2689, 7549.
SPORRI R — 5011, 5116.
SPORYKHINA V S — 7690.
SPRAGG R A — 7691.
SPRINGLE W R — 7388, 8455.
SPYCHAJ T — 8098.
SQUILLACOTE M E — 7988.
SRIDHAR T — 4463.
SRINIVASAN G — 7987.
SRINIVASAN K R — 3762, 8738.
SRINIVASAN K S V — 1637.
SRINIVASAN M — 4958, 6490, 8091.
SRINIVASAN S — 6728, 9458.
SRIVASTAVA N — 2866.
SRIVASTAVA S — 9793.
SRIVASTAVA S P — 9793.
ST CLAIR D J — 3374, 8248.
ST JOHN J J — 254.
ST. CLAIR A K — 5335, 5336.
ST. CLAIR T L — 5335.
STACCIOLI G — 1066.
STADLER R — 7640.
STAFFORD R E — 8680.
STAGE H — 3134, 3426.
STAHLWERK ANNAHUTTE MAX AICHER GMBH — 9387P.
STAHLWERKE BOCHUM AG — 6774P.
STALEY MANUFACTURING CO — 9191P.
STALIDIS G — 2905.
STALLMANN K — 8351.
STAMATHAKIS K — 2039.
STAMICARBON BV — 1009P, 2533P, 4969P, 5188P, 8243P.
STAMS D A — 2490.
STANDARDS ASSOCIATION OF AUSTRALIA — 2235, 3948.
STANDRING P N — 8564.
STANFIELD R F — 5991, 8134.
STANFORD J L — 3293.
STANG P M — 6203.
STANGER L — 5589.

STANILAND P A — 3242.
STANLEY-WOOD N G — 3635.
STANNETT V T — 3814, 6436.
STANSBURY J W — 5716.
STANTON K M — 418.
STAPLES M L — 6812.
STAPP B — 1297.
STARNES W H (JR) — 158.
STARODUBTSEV S G — 5710.
STARTSEV V M — 7641.
STATISTICHE BUNDESAMT — 1362.
STATZ R J — 4018.
STEAD J P — 386.
STEAD L F — 8572.
STEARNS E I — 529.
STEARNS R E — 529.
STECKIEWICZ R — 8453.
STEEL CONSTRUCTION INSTITUTE — 4789.
STEFANOVA R — 530.
STEGLICH B — 5714.
STEIDL D — 1724.
STEIG F B — 2818, 5769.
STEIN H N — 2919.
STEIN J — 8764.
STEINBRECHT K — 4008.
STEINER B — 3522.
STEINLE D — 2049.
STEINMANN B — 5717.
STEINMANN P A — 8601.
STEINSMO U — 1782, 5923.
STEJSKAL J — 5285, 6104.
STELZEL W — 8206.
STENGREVICS E — 9027.
STENSGAARD I — 9661.
STENZENBERGER H — 892.
STEPANEK P — 6160.
STEPANOVA A T — 4618.
STEPANOVA I S — 8602.
STEPANOVA M I — 7483.
STEPANOVA O V — 2752, 7274.
STEPHAN W — 6813.
STEPHENS W A — 587.
STEPHENSON J E — 6784.
STEPHENSON P J — 8616.
STEPHENSON R L — 548.
STEPTO R F T — 7292.
STERLING T D — 2110.
STERNE F A — 5060.
STEVENS C J — 1536.
STEVENS S — 3003.
STEVENS V L — 5012.
STEVENSON A — 5049.
STEWART D — 5120.
STEWART D J — 417.
STEWART L J — 5380.
STEWART M T — 6105.
STEWART P A — 4604.
STICHTING VERFTOEPASSING — 8421.
STICKLER M — 2359, 2360.
STILL A L — 2829.
STILLE J K — 4125.
STINE W W — 7634.
STING K S W — 3719.
STINI S — 6943.
STIPAN G — 1041.
STIRLING A J — 5117.
STISON L F — 7776.
STOAKLEY D M — 5336.
STOECKLEIN P — 3085.
STOFFER J O — 2492, 6882, 7642, 9028, 9469.
STOJANOVIC O D — 6974.
STOKDYK J — 5968.
STOLYAROVA V A — 1677.
STOLZE E — 5118.
STOLZENBACH H G — 108.
STONE F C — 1537.
STOPFORD W — 2967.
STORCK W J — 5513, 7153, 7905.
STOREY B — 4388.
STOREY R F — 2265, 2380, 2408, 6454, 9066.
STORI G — 8063.
STORP K — 8739.
STORTI G — 79, 829, 1548.
STOWE R W — 5119.
STOY W S — 7960.
STOYANOV O V — 7742.
STRAFFORD K N — 744.
STRAITON J — 3625.
STRANDBURG G — 8700.
STRANG C R — 5301, 5302, 9696, 9726.
STRANGER-JOHANNESSEN M — 3523, 8456.
STRANKS J — 731.
STRASTERS J K — 3698.
STRAUSS J — 2548.
STREHBLOW H-H — 7667.
STREHMEL B — 3003.
STREIB J — 3755.
STREITBERGER H-J — 2549, 2667, 6549, 8207.
STRESINKOVA D — 3667.
STRETENTSEVA T E — 6090.
STRITTMATTER G — 3555.
STRIVENS T A — 8668.
STROBEL P — 7121.
STROCHKOVA E M — 2690.
STROESCU M — 6444.
STROHRIEGL P — 4120.
STROKINA L M — 4534.
STROM G — 390.
STRUBELT O — 572.
STRUTT J E — 386, 745.
STUART R K — 3375.
STUBICAN J — 1024.
STUCHLY V — 3427.
STUCKER N E — 8251.
STUPAK M E — 4360.
STURDIVANT J L — 9388P.
STURROCK C P — 9794.
STYRING M G — 1903, 1992.
SU K-H — 9389P.
SUBBI REDDY M — 2839.
SUBBOTIN V P — 7681.
SUBRAMANIAN E V — 5157.
SUBRAMANIAN K S — 1230.
SUBRAMANIAN P — 6647.
SUBRAMANIAN P M — 8701.
SUBRT J — 7961.
SUDA A — 4472.
SUDA Y — 6146.
SUDHAKAR A — 8158.
SUDOL E D — 819.
SUFFET I H — 8623.
SUFLITA J M — 8740.
SUGA K — 2132, 8119.
SUGAMA T — 322.
SUGAR E T — 7034.
SUGASAKA K — 4.
SUGERMAN G — 2691.
SUGISAWA M — 5249P.
SUGITANI H — 8628.
SUGIYAMA H — 4635.
SUKHAAREVA L A — 8422.
SUKHAREVA L A — 8162.
SULIMAN M S — 7550.
SULLIVAN K R — 564.
SULTAN B-A — 5874.
SUMIRIN GOBAN CO — 7442P.
SUMITOMO BAKELITE CO — Section 22: 1631P. Section 40: 9282P. Section 44: 1018P. Section 58: 1104P. Section 64: 1171P, 8550P, 9627P.
SUMITOMO CEMENT CO — 1481P.
SUMITOMO CHEMICAL CO — 909P, 1172P, 2295P.
SUMITOMO CHEMICAL INDUSTRY CO — Section 02: 35P, 1482P, 2274P, 3978P, 7250P, 7981P, 7982P, 7983P. Section 16: 3217P. Section 18: 4945P. Section 22: 3305P, 4970P, 4971P. Section 24: 8167P. Section 44: 9322P. Section 54: 1089P. Section 64: 479P. Section 80: 1324P, 2171P, 2172P, 3016P, 3017P, 3018P.
SUMITOMO COLOUR CO — 3129P.
SUMITOMO ELECTRIC INDUSTRIES — 634P, 4375P, 6775P, 9536P, 9537P.
SUMITOMO H — 8125.

SUMITOMO LIGHT METAL INDUSTRIES — 2802P, 3499P.
SUMITOMO METAL INDUSTRIES — Section 38: 260P, 261P, 262P. Section 54: 408P, 1090P, 1803P, 2713P, 4349P. Section 80: 3019P, 7823P.
SUMITOMO NAUGATUCK CO — 2758P, 3561P, 6800P.
SUMIYA K — 2927, 4472.
SUMMITT R — 8423.
SUN CHEMICAL CORP — 1010P, 3401P, 3979P.
SUN S-T — 7704.
SUN STAR GIKEN CO — 3596P.
SUN Z — 1934.
SUNAMI A — 2742P.
SUNAMIYA CO — 5958P, 8476P.
SUNDAR R — 8233.
SUNDARA RAMAIAH M — 4216.
SUNDARAM M — 6700, 9424.
SUNG C S P — 1199, 1235.
SUNKEL K — 2280.
SUNSTAR CO — 6023P.
SUNSTAR ENGINEERING INC — 4223P.
SUNSTAR GIKEN CO — Section 24: 4140P. Section 36: 248P. Section 40: 9283P, 9284P. Section 46: 5851P. Section 64: 6024P. Section 80: 9890P.
SUPRYNOWICZ Z — 3223.
SUR G S — 920.
SURESH M — 2540.
SUTAREVA L V — 7386, 8972.
SUTER M — 7527.
SUTER U W — 3170, 3188.
SUTHAR B — 3292, 4012, 7289, 8049.
SUTHERLAND I W — 4986.
SUTHERLAND R B — 5815.
SUTKAITIS D — 5448.
SUYANI H — 6106.
SUZUKA TORYO CO — 8551P.
SUZUKI K — 2770.
SUZUKI N — 5337, 7743.
SUZUKI S — 2819, 4503, 7070.
SUZUKI T — 193, 2493, 5766.
SVEDSTRUP S — 7039, 7040.
SVERDLOVSKII MINING INST — 1483P.
SVERIGES STANDARDISERINGSKOMMISSION — 6359.
SVESTKA S — 3138.
SVETLOGORSK KHIMVOL — 5250P.
SVOBODA K — 4605, 8720.
SVOBODA M — 2725.
SWAIN G W — 8457.
SWALLEY S W — 4278.
SWAMY R N — 7551.
SWANSON R — 5884.
SWEDEN (GOVERNMENT OF) — 8741.
SWEET D V — 2246.
SWITZER W G — 1273.
SWITZER W L — 6945.
SWYSEN V E — 6204.
SYKES D C — 1783.
SYKES J M — 1278, 2678, 3481, 6723.
SYN-COAT ENTERPRISES INC — 8285P.
SYNOVEC R E — 3670.
SYRETT B C — 5924.
SZABO L — 2550.
SZAFKO J — 6161.
SZAMOSI J — 6868.
SZAUER T — 7, 387, 5925, 7552, 9409.
SZELES C — 372.
SZESZTAY M — 1231, 7002.
SZEWCZUK Z — 4320.
SZKRED T — 9774.

T

TABAQCHALI S — 2732.
TABATA Y — 5449.
TABKA M T — 7342.
TACHI K — 2819.
TACX J C J F — 2895, 6107, 7298.
TADA H — 3111.
TADROS A B — 3524, 6729, 9519.
TADROS T — 5338.
TADROS T F — 498, 4540.
TAENZER W — 6118, 6946, 7002.
TAFFE P — 588.
TAGA M — 8645.
TAGAWA H — 4858.
TAGAWA M — 7003.
TAGESSON C — 9781.
TAGOSHI H — 5718.
TAIHO KOGYO CO — 8499P, 9323P.
TAIT N — 703.
TAIT P J T — 3213, 3214, 3215.
TAIT W S — 1067.
TAIYO BUSSAN CO — 7600P.
TAKAGI K — 5339.
TAKAGI M — 7359.
TAKAGI T — 2247.
TAKAHAMA K — 2814, 2815, 2816.
TAKAHASHI K — 1993.
TAKAHASHI M — 9003, 9004.
TAKAHASHI S — 7777, 8603.
TAKAMATSU T — 2770.
TAKAMATSU YUSHI CO — 9628P, 9629P.
TAKAMI K — 1994.
TAKARADA M — 3554.
TAKATA T — 7343.
TAKEBAYASHI K — 7685.
TAKEDA CHEMICAL INDUSTRIES — Section 08: 7287P. Section 22: 910P, 2482P, 2483P. Section 32: 1652P. Section 34: 4170P, 4171P. Section 54: 1804P. Section 64: 6841P, 6842P, 6843P, 6844P, 6845P, 8552P, 8553P, 9630P.
TAKEI N — 5267.
TAKEMURA F — 1298.
TAKENAKA KOMUTEN CO — 198P.
TAKEUCHI PRESS KOGYO CO — 4449P.
TAKEUCHI T — 5290.
TAKEUCHI Y — 6192.
TAKUWA A — 4858.
TALMON L'ARMEE H — 2632.
TALMON Y — 2896, 6435.
TALYKOV V A — 7360.
TAMBURINI U — 1066.
TAMIL SELVAN S — 6658.
TAMMARO S — 4614.
TAMURA KAKEN CO — 3597P, 6240P.
TAMURA T — 3613.
TAN L S — 2463.
TAN Y Y — 2361, 4920.
TANABE H — 8424.
TANABE K — 5615.
TANAKA A — 6208.
TANAKA H — 1976, 1995.
TANAKA I — 4499.
TANAKA K — 4818, 5839.
TANAKA KIKINZOKU KOGYO CO — 8297P, 8298P, 8307P, 8308P.
TANAKA M — 1458, 1462, 2132, 2462, 8702.
TANAKA S — 2897, 9174.
TANAKA T — 3132, 4922, 8329.
TANAKA Y — 6941, 7685.
TANCREDE J M — 5816.
TANDON J P — 4363.
TANG W T — 1253.
TANGNEY T J — 3373, 8264.
TANI A — 2100.
TANIE S — 5647.
TANIGAKI T — 7359.
TANIGAWA S — 2927.
TANIGUCHI INK MANUFACTURING CO — 3402P.
TANNER R I — 1886.
TANUMA T — 8628.
TAOKA CHEMICAL CO — 3271P, 9121P, 9285P.
TAPIO K — 9400.
TARASCON R — 3815.
TARLETON E S — 3428.
TARTAKOVSKAYA A M — 9196.
TASHIRO N — 8603.
TASHIRO Y — 4244P.
TASKER P A — 5120.
TATAR R — 3618.
TATE P M — 4633.

TATE S — 4321.
TATEISHI K — 191.
TATNALL R E — 418.
TATOR K B — 6289, 9470.
TATRO M E — 7692.
TATSUMOTO K — 8038.
TAUBITZ C — 797.
TAUER K — 4888.
TAYLOR B F — 2714.
TAYLOR B J — 4576.
TAYLOR C — 5438, 5763.
TAYLOR L T — 2458, 4479.
TAYLOR M — 2290.
TAYLOR T W — 839.
TAZAKI M — 1958.
TAZUKE S — 8081.
TCACZUK P — 3376.
TDK CORP — 8309P, 8310P.
TEASS A W — 1963.
TEBBY J C — 8154.
TECHNICA LTD — 4804.
TECHNISCHE UNIVERSITEIT EINDHOVEN — 6674P.
TEHRANI N — 5532.
TEIJIN CHEMICALS CO — 3364P.
TEIJIN LTD — 446P, 8554P, 8575P.
TEIKOKU KAKO CO — Section 02: 2275P, 3130P, 3131P, 4848P, 5636P, 8994P. Section 40: 6601P. Section 54: 9503P.
TEIRLYNCK O — 573.
TEIXIDO SUBIRATS J — 9713.
TEJADA S B — 1996.
TEKLE E — 8703.
TEKNISKA NOMENKLATURCENTRALEN — 4805.
TELL R — 6322.
TEMPLE D — 8387.
TEN BERGE W F J P M — 7778.
TEN M K — 3984.
TENEW N — 5736.
TENNANT CO — 1673P, 8372P.
TEPIKINA L A — 9718.
TERAN SANTOS J — 7041.
TERASHIMA H — 2934.
TERENT'EV A B — 194, 3982.
TEROSON GMBH — 5037P.
TERRANEO S — 4625.
TERSTIEGE H — 8573.
TERUMO CORP — 1325P, 1326P, 7824P.
TESORO G C — 4919, 8132.
TESS R W — 119.
TEXACO DEVELOPMENT CORP — 4116P, 6757P, 7332P, 7353P, 7354P.
TEXACO INC — Section 06: 7270P. Section 18: 879P, 4088P, 4946P, 9122P. Section 22: 180P, 911P. Section 40: 1001P.
TEXTILE EQUIPMENT MFR — 3356P.
TEYSSIE P — 2394.
THAM M T — 1026.
THAMES S F — 916, 2565, 7409.
THAN P — 546.
THANG S H — 1532.
THANGAVEL K — 2839.
THANKACHAN C — 4154.
THATCHER S J — 9390P.
THENNARASU S — 7420.
THEO J — 2633, 7038.
THIELE L — 5750.
THIES U — 58.
THIMONS E D — 5350.
THOMAS A — 8973.
THOMAS B D — 8516.
THOMAS C J — 3467.
THOMAS C L P — 3665.
THOMAS D A — 347, 1049.
THOMAS D W — 6089.
THOMAS G — 6144.
THOMAS J C — 7004.
THOMAS J G — 1035.
THOMAS J K — 6149, 7302.
THOMAS J M — 9822.
THOMAS R J — 7693.
THOMAS R R — 7497.
THOMAS T C — 1232.
THOMPSEN J C — 1196.
THOMPSON F — 2215, 5610.
THOMPSON G E — 2822, 5863, 7008.
THOMPSON K — 8352.
THOMPSON M-F — 7934.
THOMPSON N G — 1068.
THOMPSON P A — 8699.
THOMSIN J P R — 495.
THORATEC LABORATORIES CORP — 5768P.
THORNE N A — 3664.
THORNHILL J — 7906.
THORNTON J C — 9779.
THORPE P — 2519.
THREE BOND CO — 447P, 8286P.
THROWER J H — 4450P.
THUILLIER F M — 5450.
TIBBITT J M — 3227.
TIDWELL C J — 6947.
TIEKE B — 8574.
TIEMERSMA-THOONE T P J M — 87.
TIEN C — 2039.
TIEN T-P — 2858.
TIGHE B J — 2338.
TIKKANEN J — 2968.
TIL H P — 5381.
TILL C — 3277.
TILLER A K — 3482.
TILOTTA D C — 6948, 7665.
TILTON B E — 6193.
TILTON H — 5514.
TIMPE H J — 5413.
TIMPE H-J — 599, 600, 3003.
TINLAND B — 7643.
TIOXIDE GROUP PLC — Section 02: 3980P, 4849P, 7251P, 7252P. Section 08: 5658P, 5659P. Section 48: 8332P.
TIPPL W — 9471.
TIRODKAR R B — 83.
TIRRELL D A — 2374.
TITANIUM RESEARCH INSTITUTE — 4850P.
TITOV V P — 9472.
TIU C — 3546.
TJIN S C — 7004.
TKACZUK P — 268.
TNO (NETHERLANDS ORG APPLIED SCIENTIFIC RESEARCH) — 6480P.
TOA DORO KOGYO CO — 8172P.
TOA GOSEI CHEMICAL INDUSTRY CO — Section 08: 8035P, 8036P. Section 18: 3272P, 8114P, 8115P. Section 22: 1632P. Section 34: 947P. Section 36: 974P. Section 38: 5038P, 9250P. Section 40: 2587P, 5054P, 9286P. Section 44: 3410P. Section 54: 1805P, 6758P. Section 62: 1126P. Section 64: 480P, 1173P, 2803P, 6846P. Section 80: 635P, 8808P, 8809P.
TOA NENRYO KOGYO CO — 9185P, 9631P.
TOA PAINT CO — 5177P.
TOBINAGA K — 8204.
TOBING S — 6868.
TOBORI N — 3730.
TOCHILIN S J — 1274.
TOD D A — 1264.
TODA K — 5270.
TODA KOGYO CO — 784P, 7984P.
TODD W F — 4616.
TODOKI M — 6041.
TODOROV K — 436.
TOGANEL E — 5372.
TOH M — 3417, 7718.
TOHO PERLITE CO — 6788P.
TOHOKU DOTETSU CO — 155P, 8555P.
TOHOKU POLE CO — 6025P.
TOKUYAMA SODA CO — 199P, 8011P.
TOKYO DENSHI KAGAKU CO — 287P.
TOKYO OKA KOGYO CO — 4451P, 5129P, 5486P, 6241P, 7825P.
TOKYO SHIBAURA ELECTRIC CO — 6026P.
TOLER J — 5223.
TOLER J C — 3510.
TOLLETT W J D — 2193.
TOLLEY J — 4257.
TOLSA SA — 6391P.

TOMAN L — 9071.
TOMAZOS D — 7361.
TOMB R — 552, 2064.
TOMELLINI S A — 6898.
TOMIDA M — 8135.
TOMIIE K — 7333.
TOMIOKA K — 9795.
TOMODA A — 9795.
TOMOEGAWA PAPER MANUFACTURING CO — 1707P, 1711P, 1881P, 8479P, 8810P.
TOMOI M — 1566.
TOMOVA R L — 7744.
TONELLI A E — 1995.
TONG H M — 6162, 8599.
TONG S-X — 1137.
TONOGAI S — 9643.
TOPPAN PRINTING CO — 636P, 1019P, 2605P, 7826P, 9165P.
TORAY GOSEI FILM CO — 3389P.
TORAY INDUSTRIES — Section 02: 1484P. Section 06: 51P, 3991P. Section 08: 1519P, 4880P. Section 12: 9062P. Section 14: 7300P. Section 18: 1595P, 8116P, 8117P. Section 20: 4095P. Section 22: 8150P. Section 24: 7366P, 7367P. Section 36: 4195P. Section 38: 4206P. Section 42: 1708P, 3403P, 5065P, 9303P, 9308P. Section 44: 2606P, 6614P. Section 50: 2649P. Section 62: 3562P, 4410P. Section 64: 3598P, 9632P. Section 80: 1327P, 1328P, 3020P, 4671P, 6242P, 9891P, 9892P.
TORAY SILICONE CO — Section 08: 71P, 1520P. Section 24: 2505P, 4982P, 8168P, 8169P. Section 34: 5004P. Section 36: 249P. Section 54: 8446P. Section 64: 481P, 8556P, 8557P. Section 80: 637P.
TORAY THIOKOL CO — 200P, 217P, 1882P, 5852P.
TORISU S — 5184.
TORKELSON J M — 496.
TORNELL B — 885.
TORNQUIST J — 3996.
TOROPKINA G N — 9823.
TORRANCE J B — 5739.
TORRANO E — 2276.
TORRES G — 4127.
TORRIANO G — 2831, 2843.
TORUS CORP — 9391P.
TORVELA H — 2342.
TOSCH R — 7005.
TOSHIBA CHEMICAL CO — Section 40: 1002P, 8287P. Section 58: 433P, 434P, 1827P. Section 62: 4411P.
TOSHIBA CO — Section 64: 1883P, 4452P. Section 80: 638P, 639P, 640P, 1329P, 3854P, 3855P, 3856P, 5487P.
TOSHIBA SILICONE CO — 5488P, 7368P, 7369P, 7585P, 9287P.
TOSOH CORP — 1174P, 9893P.
TOTHILL I E — 3525.
TOTO KASEI CO — 1604P.
TOTOKU ELECTRIC CO — 1828P.
TOTOKU TORYO CO — 1105P, 9538P.
TOUCHSTONE J C — 3699.
TOUGAARD S — 9719.
TOURAINE J-C — 2330.
TOWNSEND H E — 5920.
TOWNSEND P H — 5681.
TOYO ALUMINIUM CO — 8995P.
TOYO INK MANUFACTURING CO — Section 02: 1485P, 4851P, 6392P, 8996P. Section 08: 6424P. Section 36: 975P, 3357P, 4196P, 4197P, 5030P, 7397P. Section 38: 3365P. Section 42: 1011P, 3404P, 4233P, 7435P, 9309P. Section 48: 1030P. Section 54: 5178P. Section 62: 3563P, 8500P. Section 64: 1175P, 4453P, 5251P, 6847P, 7626P. Section 80: 641P, 2173P, 2174P, 3021P, 3022P, 3023P, 3857P, 3858P, 9894P, 9895P, 9896P.
TOYO KEIZAI INC — 7222.
TOYO KOGYO CO — 5179P.
TOYO KOHAN CO — 1718P.
TOYO RUBBER INDUSTRY CO — 6243P.
TOYO SEIKAN KAISHA — 880P, 5031P, 5252P, 5984P, 6675P.
TOYO SEIKAN KAISHA CO — 1674P.
TOYO SODA MANUFACTURING CO — Section 06: 1502P. Section 16: 9073P. Section 20: 9124P. Section 22: 9166P. Section 24: 3328P. Section 42: 7436P, 7437P. Section 44: 7439P. Section 80: 9897P.
TOYOBO CO — Section 18: 9123P. Section 22: 9167P. Section 44: 1712P. Section 64: 8558P. Section 80: 3859P, 3860P, 5489P, 5490P.
TOYODA AUTOMATIC LOOM CO — 5837P.
TOYODA GOSEI CO — 3390P, 3391P, 3392P, 3599P.
TOYOTA CENTRE FOR RESEARCH & DEVELOPMENT — 5491P.
TOYOTA MOTOR CO — Section 36: 1675P. Section 46: 1719P. Section 50: 341P, 1755P, 7512P, 7513P, 8373P, 9392P. Section 62: 448P, 6801P, 9567P, 9568P. Section 64: 1176P.
TRAKHTENBERG S I — 3201.
TRAN-BRUNI C V — 2409.
TRAPP M A — 7069.
TRATHNIGG B — 7694.
TRAUBERT C S — 2358.
TRAUZEDDEL R — 7005.
TRAVIS C C — 6194.
TRAYLOR T G — 7999.
TREACHER S — 1736.
TREADAWAY K W J — 2692, 2693, 7553.
TREMCO INC — 2484P.
TRESCOL J J — 8604.
TREUSCHEL J — 4273.
TREVERTON J A — 1997.
TRIANTAFILLOPOULOS N G — 6042.
TRIBBLE M J — 8594.
TRIBIG G — 2111.
TRIBILLO R — 8453.
TRIBNIKOVA I A — 9246.
TRIFIRO F — 7257.
TRIMBER K — 7498.
TRIMBER K A — 2639.
TRIPATHY S K — 1250.
TRIPP E P — 5451, 7079.
TRIVEDI R K — 40, 8998.
TRIVELLA F — 4456, 9473.
TRIZIO D — 574.
TROCHIMOWICZ H J — 3780.
TROST V W — 6108.
TROTTIER E — 4819.
TROYK P R — 6802.
TRUBNIKOV A V — 3983.
TRUBNIKOVA N A — 1681.
TRUITT R C — 3135.
TRUMBO D L — 893.
TRUSOV A D — 9908.
TSAI B C — 8704.
TSAI C C — 53.
TSAI R-S — 5809.
TSANGARAKI-KAPLANOGLOU I — 5845.
TSCHUDY R T — 5835.
TSE M F — 500.
TSENG H S — 4473.
TSENG H-S — 7719.
TSITSILIANIS C — 6949.
TSIVIIMASHDETAL TEXT — 8288P.
TSO S C — 2307.
TSONIS C P — 9063.
TSONSIS C P — 3216.
TSOU A H — 851, 2410, 2935.
TSUBOTA M — 7644.
TSUBOUCHI K — 8425.
TSUCHIDA E — 1561.
TSUCHIDA H — 201P.
TSUCHIHARA K — 5764.
TSUCHIYA J — 9003.
TSUCHIYA M — 3792.
TSUCHIYA S — 7999.
TSUCHIYA Y — 8204.
TSUGE S — 1981.
TSUGITA A — 3112.
TSUJI A — 921.
TSUJI M — 1998.
TSUKAHARA Y — 7304.
TSUNO Y — 9846.
TSUNOOKA M — 2132, 2462, 3816.

TSURATA T — 2362.
TSURU T — 351, 388.
TSURUMORI E — 6932.
TSURUTA T — 115, 2411, 5691P.
TSUTSUI K — 1463, 3738.
TSUTSUMI N — 921.
TSVETKOVA A I — 3147.
TU R S — 4237, 5452.
TUCHWEBER B — 553, 2948.
TUCK W A (JR) — 3038.
TUCKERMAN R — 531, 8192.
TUEL A — 2936.
TUNGARE A V — 6988.
TURCK C — 4637.
TURCU E — 2535.
TURGOOSE S — 7008.
TURK G C — 1938.
TURK H — 8000.
TURNER D T — 5720.
TURNER L K — 4509.
TURNER M E D — 5926.
TURNER R — 7843.
TURNER R B — 2464.
TURNER R J — 7797.
TURNER S R — 4644, 4645.
TUROCZY N J — 7655.
TWIGG D — 5927.
TYAGI O S — 1971.
TYLMAN T A — 323.
TYMAN J H P — 6398.
TYNDALE PLAINS-HUNTER LTD — 2485P, 4972P.
TYSON J F — 5277, 5293.

U

UBE INDUSTRIES LTD — Section 02: 785P, 1486P, 1487P. Section 18: 1596P. Section 38: 6579P. Section 40: 2588P, 3393P, 3394P. Section 52: 345P. Section 80: 3024P, 7117P, 7827P, 9898P.
UCCELLA G — 1069, 5158.
UCHIDA H — 6109.
UCHIDA J — 9840.
UCHIDA S — 2261.
UCHIKAWA K — 3613, 5253.
UDOVICHENKO V I — 7499.
UDSETH H R — 4527.
UEBNER M — 942.
UEDA H — 3817.
UEDA K — 532.
UEDA M — 5719, 8703, 9134.
UEHATA T — 5351.
UENO H — 3600P.
UENO K — 5184.
UESTERBERG O — 2977.
UGELSTAD J — 8054.
UHDE C — 1456.
UKRAINSKII ACADEMY OF SCIENCE FOSSIL FUEL — 288P.
UKRAINSKII ACADEMY OF SCIENCE PHYS CHEM — 3601P.
UKRAINSKII CARBON CHEM RES — 7271P.
UKRAINSKII CELL-PAPER IND — 9633P.
UKRAINSKII WOODWORK COMBIN — 1756P.
UL'BERG E R — 9520.
UL'BERG Z R — 7531.
ULANO CORP — 812P.
ULREN L — 6043.
ULYATT J — 2573.
UMEMOTO H — 4096.
UNDERHILL D W — 6885, 6947.
UNDERWRITERS' LABORATORIES — 4785.
UNGER S — 6118.
UNICORN INDUSTRIES PLC — 2643P.
UNILEVER NV — 6399P.
UNILEVER PLC — 3136P.
UNION CAMP CORP — Section 04: 2278P. Section 10: 74P, 75P, 2316P, 4005P. Section 22: 7355P. Section 42: 9310P.
UNION CARBIDE CORP — Section 18: 3273P, 3274P. Section 22: 1633P, 6522P. Section 24: 6531P. Section 34: 3346P, 6544P, 7382P. Section 36: 6575P. Section 80: 7828P, 9899P.
UNION OIL CO OF CALIFORNIA — 8374P.
UNIROYAL CHEMICAL CO — 1022P, 9168P.
UNISHEFF VENTURES LTD — 6767P.
UNISIDA SA — 6730.
UNITED KINGDOM BUILDING EFFECTS REVIEW GROUP — 7057.
UNITED KINGDOM TERRESTRIAL EFFECTS REVIEW GROUP — 589.
UNITED TECHNOLOGIES CORP — 1884P, 5760P, 6848P.
UNITIKA CHEMICAL CO — 1643P, 9504P.
UNITIKA LTD — Section 38: 263P, 1688P. Section 60: 1112P. Section 80: 2175P, 3025P, 8811P.
UNIVERSITY OF MANCHESTER INSTITUTE OF SCIENCE AND TECHNOLOGY — 7554.
UNO H — 2412, 7343.
UNSWORTH A K — 660, 1855.
UNSWORTH K — 195.
UOP INC — 3306P, 3307P.
UPSON D A — 8055.
URALS PIPE IND RES — 5892P, 7514P.
URANO S — 4096.
URASA I T — 3700.
URBAN M W — Section 69: 2898, 4491, 4520, 4528, 6057, 6105, 6110, 9720.
URBANIK E — 6876.
URBANO E — 6734.
URIARTE C — 9741.
URSU I — 5670.
URYU T — 3792.
US DEPARTMENT OF AGRICULTURE — 661.
US DEPARTMENT OF COMMERCE — 1363, 6275.
US GYPSUM CO — 8559P.
US INTERNATIONAL TRADE COMMISSION — 8826.
US SECRETARY OF THE AIR FORCE — 181P, 9398P.
US SECRETARY OF THE NAVY — 1597P, 4350P.
USAMI N — 8658.
USANMAZ A — 3818.
USBI BOOSTER PRODUCTION CO — 9634P.
USHA V — 6094.
USHIAMA S — 5270, 5271.
USHIO S — 690, 2179, 3047.
USHIROGOUGHI T — 9170.
USOWSKI E T — 3578.
USSR ACADEMY OF SCIENCE PHYS CHEM — 5055P.
USTROVSKAYA A V — 9197.
USUI KOKUSAI SANGYO CO — 4351P.
UTSUCI H — 7743.
UTSUGI H — 5337.
UUEMYIA KH KH — 8974.
UUSIMAKI A — 2342.
UZHGOROD UNIVERSITY — 8651P.
UZUNER A — 9732.

V

VACCHINI D — 5882.
VACHLAS Z — 5785.
VACKOVA M — 3703.
VAGONOV V V — 8244P.
VAHTER M — 7677, 7695.
VAIDULLEAV S A — 3744.
VAIDYA U R — 2840.
VAIDYANATHAN K S — 120.
VAITHYANATHAN M — 766, 8975.
VAKHERMYAGI I P — 8974.
VALAULIKAR B S — 5323.
VALDES D — 6731.
VALDES-AGUILERA O — 9838.
VALET A — 3997.
VALET P — 4769.
VALIGI M — 4546.
VALKIRS A O — 6203.
VALLAT M F — 8071.
VAN ACKER E M — 2291.
VAN BALEN C L — 389.
VAN BEELEN D C — 2937, 8517, 9574.

VAN BEYLEN M — 3189.
VAN DE VEN L — 1038.
VAN DE VEN L J M — 3701.
VAN DEN BERG C M G — 533.
VAN DEN HAAK H J W — 2440, 2520.
VAN DER DRIFT J — 3921.
VAN DER HAEGEN R — 1999.
VAN DER HEIJDEN C A — 5369.
VAN DER HEIJKANT J A M — 2933.
VAN DER LINDE R — 8092.
VAN DER LOOS J L M — 834, 6439.
VAN DER MEEREN P P A — 3756.
VAN DER PLOEG A F M J — 2465, 2694.
VAN DER SANDEN J B J — 5421.
VAN DER VEN L G J — 166, 2440.
VAN DER WANSEM B G — 9847.
VAN DER WANSSEM B G — 8353.
VAN DER WEGEN G J L — 1070.
VAN DIJK J H — 166.
VAN DOREMAELE G H J — 1567.
VAN DOREN R E — 7282.
VAN DORSTEN P — 3462.
VAN EECKE M C — 8571.
VAN EKENSTEIN G O R A — 4920.
VAN ELVEN L P M — 2329.
VAN ESCH C — 272.
VAN ESCH K — 5272.
VAN GERRESHEIM W — 2694, 2841.
VAN HERK A M — 1567, 2329, 4813, 4906.
VAN HOOFF W — 4308.
VAN HORSSEN L W — 4121.
VAN IPEREN R — 8094.
VAN JOOST T — 4606.
VAN LEEMPUT L J J — 6204.
VAN LEEUWEN H L — 9474.
VAN LEYEN D — 6085.
VAN MEIRVANNE D — 4100.
VAN NIEKERK I — 7754.
VAN NIEUWKERK H J — 2899.
VAN OOIJ W J — 390, 5159, 5160, 6950, 9721.
VAN OSS C J — 2938, 3757, 6163, 7745.
VAN ROSSUM C A J J — 2694, 2841.
VAN SANTEN A — 3745.
VAN VEEN E H — 4529.
VAN VELDE J W — 8087.
VAN VLIET C — 9796.
VAN VROONHOVEN F C B M — 4270.
VAN WEELDEN J D — 5883.
VAN WESTRENEN W J — 2544.
VAN WIJK F G H — 8087.
VANCE R G — 7992, 9010.
VANCOILLE M J S — 5576.
VANCSO G — 9754.
VANDEGRIFT S A — 2000.
VANDERDEELEN J — 3756.
VANDERHOFF J W — 2332, 2387, 3228, 6904, 7290.
VANDERMEERSSCHE G — 2040, 7006.
VANDEVOORDE P M — 2525.
VANDEZANDE G — 8197.
VANHATALO L — 9400, 9755.
VANIULLIN A K — 6393P.
VANKAN J M J — 3701.
VANKO I — 8001.
VANYARKHA L R — 7492.
VARA F J — 5409.
VARADI T — 2550.
VARAPRATH P J — 1299.
VARDON J D C — 5161.
VARGA J — 9126.
VARGHA V — 2444.
VARGO T G — 6111.
VARKONYI B — 2907.
VARMA D S — 849.
VARMA I K — 849.
VAROQUI R — 2041, 9749.
VASH R — 8018.
VASISHTHA A K — 40, 2526, 8998.
VASNEV V A — 3174, 3175, 3176.
VASS F — 7279.
VASSIE P R — 7555.
VASTRADE G — 8571.
VASYUNINA M G — 5382.
VAULTRIN N — 6659.
VAVRA J — 6963.
VECERA M — 917.
VEGA V N — 5426.
VEILLEUX R F — 7223.
VEILLON P — 6660.
VELARDE M G — 4537.
VELARDI L — 5394.
VELGHE N — 2900.
VENABLES K M — 7042.
VENABLES R K — 9466.
VENKATACHARI G — 6710, 6728.
VENKATESAN T K — 9000.
VENNELL S — 5569.
VERBA A — 6879.
VERBANIC C — 8184.
VERBIST R — 2682.
VERDU E — 4530.
VERDU J — Section 07: 2300. Section 53: 6699. Section 67: 3629. Section 69: 3652. Section 71: 3711, 7705.
VERENIGING VAN VERF- EN DRUKINKTFABRIKANTEN — 2189.
VERGNAUD J M — 3724, 6864.
VERKHOLANTSEV V V — 8226P, 9021, 9693.
VERMEULEN J — 2406.
VERMEULEN L A — 292.
VERNEKAR S P — 894.
VERTES A — 372, 8646.
VESELOVSKII R A — 1690.
VESELY M — 9011.
VESPIGNANI G — 5121.
VESTAR INC — 280P.
VETERE V F — 4318, 4322, 4531.
VIAL F — 2924.
VIANELLO F — 534.
VIANOVA KUNSTHARZ AG — Section 18: 3275P, 4089P. Section 22: 6523P. Section 36: 250P, 251P, 4198P, 5032P, 5796P, 8227P, 8228P, 8229P. Section 56: 1819P.
VICENS J — 6400.
VICKERS D L — 391.
VICKERS T J — 4514.
VICKERSTAFF N — 3653.
VICTOR OF JAPAN CO — 1713P, 1714P.
VIDAL A — 523, 3763.
VIDELA H A — 3483.
VIDEOJET SYSTEMS INTERNATIONAL INC — 9311P.
VIDRICH V — 4498.
VIEJO BANUELOS J L — 7041.
VIERSEN F J — 6455.
VIETTI D E — 3319.
VIGO J P — 5964, 6780.
VIJAYAKUMAR C T — 833, 2413.
VIJAYAKUMAR K M — 7987.
VIJAYAKUMAR R — 1057, 8426.
VIJAYENDRAN B R — 3348, 3369.
VIKSNE A V — 8605.
VILAR W D — 4102.
VILGIS T A — 2939, 3190, 4019.
VILLANUEVA ARNAIZ E — 5928.
VILLASIS O — 7124.
VILLASIS O L — 5498.
VILLORIA G — 4358.
VILUTENE V — 5107.
VINCENT B — 2932.
VINCENT J A J M — 2465.
VINCENT J H — 2975.
VINCENTZ L — Section 81: 6249. Section 82: 662, 4694, 4695, 4696, 7154. Section 84: 704, 4733, 4734, 6320, 6321, 7189, 9962. Section 88: 4786.
VINOGRADOV B D — 9328P.
VINOGRADOVA V N — 2292.
VIRAS F — 2042, 3750.
VIRAS K — 2042, 3750.
VISSER J — 7746.
VISSER J D — 5453.
VISWANADHAM S K — 2902.
VISWANTHAN K V — 3754.
VITA G — 8063.
VIVES Y ARGILAGOS D X — 9989.
VLIENCHIK L Z — 6929.

VNIISTROIPOLIMER — 3411P.
VNIITEPLOIZOLATSIYA — 9288P.
VO-DINH T — 6886.
VOEGBORLO R B — 7550.
VOFSI D — 3309.
VOGEL J — 4567.
VOGELSANG S — 361.
VOGL O — 8090.
VOGT O — 2695.
VOIT B — 9057, 9841.
VOLGOGRAD KHIMPROM — 7562P.
VOLGOGRAD POLYTECHNIC — 7337P.
VOLKE B H — 4279.
VOLKMANN T — 4901.
VOLLBRACHT L — 3295.
VOLODINA L I — 9823.
VOLOGDA POLYTECHNIC — 8375P.
VOLOSHIN V F — 392.
VOLOSHINA N M — 1690.
VON BOCKELMANN W — 4217, 4218.
VON DUNGEN M — 7850.
VON EULER G — 2951.
VON KAKOSSY V — 7500.
VON MEERWALL E — 7747.
VON RAVEN A — 3555.
VON RYBINSKI W — 6986.
VON SCHLOTHEIM B — 2190, 2191, 6276, 7190.
VONTORKOVA M — 9765.
VOSS H J — 992.
VOULGARIDIS E — 2609.
VOUROS P — 6081, 9694.
VOYNOVA S H — 2844.
VOZNYI A S — 3781.
VREDENBURGH W — 95.
VRENTAS J S — 5340, 7747.
VRIJ A — 3686, 6153, 7737.
VYASELEVA G YA — 6547.

W

WACHENFELD-EISELE E — 7748.
WACHTEL J A — 8704.
WACKER SILICONES CORP — 642P, 932P, 4983P, 8196P.
WACKER-CHEMIE GMBH — Section 24: 4984P, 4985P, 6532P, 8170P. Section 36: 1676P. Section 50: 3457P. Section 54: 3500P, 4352P. Section 80: 7118P.
WADDINGTON K — 5199.
WADE T — 4887.
WADE T L — 3787.
WADEY B L — 7032.
WADGAONKAR P P — 894.
WAGGONER R A — 3758.
WAGH A B — 2733.
WAGNER K — 5750.
WAGNER R — 2636.
WAHBI A-A M — 6951.
WAHL E A — 4454P, 8560P.
WAHL G P — 4280, 4323, 6732.
WAIBLINGER U — 1778.
WAKAO N — 4545.
WAKAYAMA SEIKA KOGYO — 9020P.
WAKE L V — 1831.
WAKE M — 1225.
WAKEFORD C M — 2901.
WAKO PURE CHEMICAL INDUSTRIES — 828P.
WALBERG A C — 6661.
WALBRIDGE D J — 3191, 3192.
WALKER C L — 7043.
WALKER G — 420, 8721.
WALKER P M B — 746.
WALL A J — 6733.
WALL R J — 5303.
WALLACE D M — 2043.
WALLACE G G — 2870.
WALLACE L A — 3784.
WALLBANK E J — 5929.
WALLER D — 1381.
WALLPAPER PAINT AND WALLCOVERING RETAILERS' ASSOCIATION LTD — 4806.
WALLPOTT G — 4392.
WALLS J M — 4807.
WALOWIT E — 3614.
WALRATH J — 7779.
WALSH D — 4808.
WALSH D J — 1538.
WALTHER G — 6322.
WALTMAN R J — 9747.
WALTRIP D — 8518.
WAMPLER F M — 6207.
WAMPLER T P — 6112.
WAMSER N — 6734.
WANG B — 2486, 6044.
WANG C Y — 2941.
WANG C-W — 2001.
WANG D — 2414.
WANG G — 6689.
WANG H-C — 7749.
WANG M-L — 3636.
WANG Q-W — 2002.
WANG S — 2003, 7283.
WANG Y — 1562, 5903.
WANG Z-L — 1927.
WANNINGER P — 8330.
WARD BLENKINSOP & CO LTD — 2176P.
WARD C H — 9822.
WARD J — 7935.
WARD M — 2112, 4607, 7155, 8827, 9927.
WARD T C — 1239, 1915, 2571, 4555.
WARDMAN R H — 2901.
WARNE M A — 7530.
WARNER G F — 5950.
WARREN C — 9475.
WARSHAW R — 9779.
WARSHAWSKY A — 8055.
WARSON H — 84, 993, 2363.
WARTEWIG S — 6933.
WARWICK P C — 5161.
WASHALL J W — 6112.
WASHIN KAGAKU KOGYO CO — 6027P.
WASHIO A — 8125.
WASS U — 8719.
WASSBERG N L — 2392.
WASSERBAUER R — 1811.
WASSERMAN M B — 1233.
WASSERMAN S — 5050, 6159.
WASSON E A — 3716, 8203.
WATANABE H — 767.
WATANABE K — 1203.
WATANABE M — 2044, 8002.
WATANABE O — 4895.
WATANABE S — 393, 419.
WATANABE T — 2954, 7662.
WATANABE Y — 55.
WATERMAN L — 7962.
WATKINS N D — 3214.
WATKINSON S C — 7569.
WATSON J — 9722.
WATTERSON A C — 3317.
WAZEER M I M — 9063.
WEAVER J C — 7058.
WEBB W D — 6121.
WEBCRAFT TECHNOLOGIES INC — 9312P.
WEBER E — 297.
WEBER J H — 5387.
WEBER K — 7255.
WEBER S G — 4532.
WEBSTER O W — 85, 3193, 4029.
WEDERELL C — 1059.
WEE Y C — 3526.
WEERTS P A — 834, 6439.
WEGMAN D H — 2101.
WEGNER G — 4959, 8072, 8073.
WEHMEYER R M — 7997.
WEI T-H — 7628.
WEI T-S — 4418.
WEIDMAN T W — 7357.
WEIDNER R — 7075.
WEIGEL K — 5200, 6576, 9476.
WEIGL J — 3555.
WEILAND P — 1492.
WEINER R M — 7416.

WEINKAM J J — 2110.
WEIR N A — 5687.
WEISKE C — 1768.
WEISS R A — 913.
WEISS W — 4608.
WELDES H — 5987.
WELDON D G — 6735.
WELINDER H — 7033.
WELLA AG — 6849P.
WELLNER W — 941.
WELLS T — 8961.
WELLS W R — 8354.
WELP G A — 9982.
WELSCH F — 2109.
WELSH OFFICE — 4744, 4745, 7913, 7914.
WELTE U J — 324.
WEN-GAN X — 4219.
WENDENBURG L — 7156.
WENDLER K — 4033, 9072.
WENDT W — 3639.
WENFANG S — 1063.
WENGER F — 6736, 6737.
WENIG W — 6908.
WERTZ J L — 8042.
WESON J — 5122.
WEST A S — 5454.
WEST R — 3484.
WESTCOTT C — 707.
WESTCOTT S — 9521.
WESTIN P — 8.
WESTKAEMPER P H — 1527.
WESTRA J G — 4474.
WESTVACO CORP — 76P, 6534P.
WETTON R E — 5273, 6883.
WEWERS D — 4974.
WHALE L R J — 4475.
WHEAT H G — 5157.
WHILLOCK M — 4609.
WHITAKER A — 7240.
WHITAKER AND SONS — 1452.
WHITAKER J C H — 3788.
WHITE D M — 3243.
WHITE J L — 1242, 5081.
WHITE J W — 3312.
WHITE M C — 575.
WHITE N J — 5399.
WHITE P — 5992.
WHITE P J — 41.
WHITE R — 7556, 8427.
WHITE R L — 4488.
WHITEHEAD J — 7803.
WHITEHOUSE N R — 2696.
WHITEHOUSE R S — 844, 994.
WHITEMAN M — 3759.
WHITESIDE R C (JR) — 8095.
WHITESIDES G M — 1247.
WHITFIELD T W A — 7632.
WHITING K — 5687.
WHITING W R — 590P.
WHITMORE P M — 7241.
WHITTAKER CORP — 4353P.
WHYCO CHROMIUM CO — 9505P.
WICKS Z W (JR) — 6536.
WIDDECKE H — 4901.
WIDMAIER J M — 821, 5663, 7342.
WIECZORREK W — 3485.
WIEGAND G — 1382, 8742.
WIEGHAUS G — 768.
WIENBECK H — 6738.
WIGANT L — 5413.
WIGHTMAN J P — 7636.
WIGNALL G D — 6935.
WIJMAN J G — 8726.
WIJNEN H — 2122.
WILCOX G D — 1042.
WILD L — 5295.
WILFORD A — 2403, 4921.
WILHELMSSON B — 2078, 2969,
WILK Z A — 2902.
WILKEN R — 6164.
WILKES D — 6952, 9966.
WILKIE C A — 5189, 5967.
WILKINS C L — 9668.
WILKINSON J M — 6113.
WILKINSON M C — 3736.
WILKINSON S — 6284.
WILKINSON S A — 2986, 6209.
WILKINSON S L — 5515.
WILLARD F K — 5406, 5428.
WILLARD R C — 4324.
WILLE J — 8612.
WILLEITNER H — 5951.
WILLEKE K — 6939.
WILLEMSE F R J — 5224.
WILLIAMS A — 2133.
WILLIAMS D — 6953.
WILLIAMS D D — 4516.
WILLIAMS D F — 4364.
WILLIAMS G — 2045.
WILLIAMS G R — 3527, 8458.
WILLIAMS J G — 1986.
WILLIAMS P C — 6086.
WILLIAMS P J — 6883.
WILLIAMS P L — 2113.
WILLIAMS P S — 3666, 6097.
WILLIAMS R C — 2415.
WILLIAMS R J J — 77, 8077.
WILLIAMS R S — 4325, 6045.
WILLIAMS S — 4873.
WILLIAMS W — 2416.
WILLIAMS-WYNN D E A — 943.
WILLIS C A — 3637.
WILLIS N — 8647.
WILLNER J R — 7851.
WILLS J — 8865.
WILMOTTE M — 5274.
WILMS A — 223, 768.
WILNER J R — 5516.
WILSON A D — 3716, 7224.
WILSON CO — 9506P.
WILSON I — 2134.
WILSON J — 5304.
WILSON J C — 3707.
WILSON J D — 3004.
WILSON L J — 705.
WILSON S J — 2871, 2872.
WILSON T W — 5720.
WILTSHIRE T J — 7632.
WINAND R — 6739.
WINANDY J E — 6045.
WINDIG W — 1233.
WINDOW CARE BV — 3544P.
WINEBURG J P — 7557.
WINEFORDNER J D — 6101.
WINFREE W P — 5335.
WINGARD D — 2416, 6456.
WINICK R — 3462.
WINKEL P — 4281.
WINKLER J — 2940.
WINKLER R E — 1539.
WINKLESS N — 2970.
WINNIK F M — 491.
WINNIK M A — 7306.
WINTER R — 7242.
WINTER R B — 8743.
WINTON R A — 6818P.
WIRTH H — 4294, 4626.
WISANRAKKIT G — 7007.
WITKIEWICZ Z — 6938.
WITKOWSKI R — 4008.
WITTEN T A — 6143.
WITTMER P — 9058.
WOELKER G — 1062.
WOHRLE D — 895, 8968.
WOITE B — 1114, 1115.
WOITOWITZ H-J — 6195.
WOJCIK W — 4549, 8673.
WOJCIKIEWICZ H — 6095.
WOKAUN A — 520.
WOLF C — 5884.
WOLF R A — 1540.
WOLFEL V — 3933.

WOLFORD R — 575.
WOLINSKI L E — 5455.
WOLKING K — 2416.
WOLMAN GMBH — 428P, 1820P.
WOLMAN R — 7754.
WOLSKI W — 6376.
WOLTERS M — 5930.
WONG C W — 1926.
WONG K F — 5353.
WONG K H — 9698.
WONG O — 9797.
WONG R — 8291.
WONG R P — 1887.
WONG S S — 6426.
WONGKAMOLSESH K — 7421.
WOO E — 6944.
WOOD A — 9963.
WOOD G C — 383, 384, 385, 2822, 5863.
WOOD J C — 385.
WOOD K B — 6436.
WOOD P E — 1599.
WOOD R P — 1265.
WOOD T — 8265.
WOOD T M — 3528.
WOODHAMS R T — 2974.
WOODHOUSE J — 9658.
WOODRUFF D P — 747.
WOODS D C — 3529.
WOODS D R — 1599.
WOODS W B — 8459.
WOODSON J P — 1737.
WOODWARD K N — 4809.
WOOLMAN R — 1021.
WORKING GROUP OF THE CORROSION CONTROL ENGINEERING JOINT VENTURE — 1099.
WORLD HEALTH ORGANISATION — 5383, 5384, 9798, 9799, 9800.
WORMALD US INC — 1283P.
WORSDALL H — 10007.
WORSFOLD P J — 3702.
WOUTERSEN R A — 4610.
WOZNIAK K — 3449, 9369.
WRAGG J L — 8648.
WRANGSKOG K — 2977.
WRIGHT A G — 2903.
WRIGHT A P — 1299.
WRIGHT C A — 7008.
WRIGHT D — 2046, 3052.
WRIGHT H — 2623.
WRIGHT J L — 4538.
WRIGHT M E — 922.
WRIGHT R W — 4526.
WRIGHT W W — 3661, 8590.
WRIGHTSON I — 6196.
WRIXON A D — 576.
WROBLOWA H S — 394.
WRONSKA-NOFER T — 2107.
WU C — 6114, 6165.
WU C-G — 8047.
WU D T — 1266, 2941, 4148.
WU M M — 9768, 9769.
WU R S — 1527.
WU S J — 90.
WU S K — 601.
WU T-C — 7997.
WU W — 8722.
WU X — 9477.
WUENSCHE P — 6482.
WUENSCHER G — 2865.
WURTH H — 769.
WURTZBURG S — 7501.
WYDEVEN T — 9756.
WYSZINSKI K — 4320.

X

XEROX CORP — 1488P, 3405P, 8311P.
XIA H — 2284.
XIAO H X — 266, 1691, 2364, 4889.
XIAO H-K — 9696.
XIAOMIN X — 7910.
XIE H Q — 2842.
XIE T Y — 1599.
XU B — 7080.
XU B-C — 1300.
XU F — 7999.
XU G J — 8064.
XU H-J — 7958.
XU J R — 3760, 4326, 9723.
XU X L — 4097.

Y

YAFFE B S — 5885.
YAGCI Y — 602, 5456, 6429, 8074.
YAKLAKOVA G N — 6954.
YAKLOKOV M G — 6954.
YAKOVLEV A D — 1677.
YAKOVLEV V B — 8019.
YAKOVLEVA G S — 7274.
YAKUBINSKAYA T M — 7371.
YAKUNINA G V — 7790.
YAKUSHIN F S — 7574.
YALPANI M — 8610.
YAMADA B — 4922.
YAMADA T — 1462, 5721.
YAMAGATA S — 1464, 6377.
YAMAGUCHI K — 2883.
YAMAGUCHI M — 1027.
YAMAGUCHI S — 9724.
YAMAMOTO T — 378, 2681.
YAMAMOTO Y — 532, 1211, 4472, 5733.
YAMANAKA K — 7319.
YAMANAKA S — 1211.
YAMANE H — 4122.
YAMASAKI H — 1994.
YAMASHITA M — 4327.
YAMASHITA T — 8002.
YAMASHITA Y — 7304, 8076, 8658, 8659.
YAMAUCHI H — 9757.
YAMAUCHI R — 42.
YAMAZAKI H — 1566.
YAN Y D — 5341.
YANG B — 8158.
YANG G — 3224.
YANG L-L — 2001.
YANG S-I — 2381.
YANG W P — 9758.
YANG Y S — 1234, 1568, 7320.
YANIV A E — 1284.
YANNACOPOULOS S — 4301.
YANOV L A — 4263, 7520.
YAOHUAN L — 4061.
YAPIJAKIS C — 2114.
YARDLEY-JONES A — 2115.
YARIS R — 8697.
YAROSLAVL POLYTECHNIC — 36P.
YAROSLAVSKII TEKHUGLEROD — 1489P.
YARROW A S — 357.
YASEEN M — 2839.
YASUDA H — 1541, 1765, 1890, 3194.
YASUHARA T — 3238.
YASUI H — 2551.
YASUI S — 3113, 7963.
YATES T J S — 2697.
YAU W W — 1904, 5275.
YAZAWA M — 5719.
YEE A — 205.
YEH Y-S — 1541.
YEKTA-FARD M — 3761.
YEN K-M — 8743.
YEUNG E S — 2864.
YG TOKEN — 9569P.
YILDIRIM ERBIL H — 5342.
YILGOR I — 4419.
YIN S — 2116.
YIN Y-L — 1192.
YING B-P — 2734.
YING L-S — 9696, 9725, 9726.
YINGSONG Y — 4061.
YOKO T — 5839.

YOKOHAMA RUBBER CO — Section 12: 7295P.
Section 18: 881P. Section 40: 5056P, 5057P, 9289P.
Section 54: 1091P, 1806P. Section 64: 1177P, 1885P, 9635P.
Section 80: 643P, 644P, 1330P, 2177P, 3026P, 3861P, 4672P, 5492P, 9900P, 9901P, 9902P.
YOKOI H — 9012.
YOKOI M — 2020.
YOKOTA R — 6916.
YOKOYAMA A — 3762.
YOKOYAMA T — 9758.
YOKOZAWA T — 3237.
YONEYAMA M — 3296, 9089.
YONEZAWA S — 111.
YONGCAI J — 6955, 6956.
YONKER C R — 4526.
YOSHIDA H — 3111.
YOSHIDA KOGYO CO — 3027P.
YOSHIDA T — 5267.
YOSHIDA Y — 8002.
YOSHIFUJI Y — 5735.
YOSHII M — 8593.
YOSHIKAWA Y — 9004.
YOSHIMURA O — 532.
YOSHIMURA S — 2397.
YOSHIMURA T — 159.
YOSHINO SEKKO CO — 4881P.
YOSHIOKA — 4282.
YOSHIOKA H — 8059.
YOSHIOKA M — 9844.
YOSHIOKA N — 1561.
YOSHITOMI PHARMACEUTICAL INDUSTRY CO — 5959P, 5960P, 5961P.
YOSHIURA I — 5962P.
YOSHIZAWA H — 376.
YOUNAN A F — 836.
YOUNG G A — 420.
YOUNG P M — 9478.
YOUNG R A — 8331.
YOUNG R J — 1905.
YOUNGDAHL K A — 8163.
YOUSSEF B — 5762.
YOUSUF M K — 7410.
YU D — 1267, 5744
YU H-S — 852.
YU P Y — 2855.
YU W — 8152.
YU W C — 1235.
YUAN E L — 6132.
YUAN X F — 2009.
YUAN Z — 2293.
YUAN Z-L — 7958.
YUHO CHEMICAL CO — 3862P, 7829P.
YUI K — 8003.
YUKI GOSEI YAKUHIN — 2506P.
YULE A — 6761.
YULE A B — 420.
YUN E M — 2854.
YUZHVODOPROVOD — 8376P.

Z

ZABEL L — 5051.
ZABEL T — 9801.
ZABIK M J — 6930.
ZABORSKI M — 3763, 7750.
ZACH M — 4697, 6322.
ZACHMANN H G — 6122.
ZADAK Z — 1811.
ZADRA M D — 5814.
ZAETS G F — 7801.
ZAGAR-MARICIC A — 6740.
ZAHORA A R — 2727.
ZAIDMAN B — 9335.
ZAIKIN V G — 521.
ZAITSEV V G — 7502.
ZAITSEVA M P — 3781.
ZAKHAROVA N N — 4328.
ZAKRZEWSKI E — 3704.
ZALTASH A — 3421.
ZAMBRINI A M — 4810.
ZAMORA F — 8136.
ZANDE J M — 7073.
ZANNONI L W — 720.
ZANOCCO A — 2135.
ZAPAS L J — 8606.
ZAPF F — 1297.
ZARE R N — 6920.
ZAWADA Z — 5138.
ZAYED A M — 9479.
ZDUN M — 9432.
ZEIGER E — 9784.
ZELASCHI L — 7157.
ZELLERS E T — 1236.
ZEMAN O — 8765.
ZEMBERYOVA M — 3703.
ZEMBRZUSKI M — 9774.
ZENKER R — 8086.
ZENTEL R — 3195.
ZETTL A — 8266.
ZEY E G — 596.
ZHAKHOVSKII V V`— 4518.
ZHAN D-F — 4149.
ZHAN F — 7583.
ZHANG B — 6922.
ZHANG J — 3964, 6736.
ZHANG M — 1195.
ZHANG Q — 7696.
ZHANG S-X — 4060.
ZHANG W — 7463.
ZHANG X — 8660.
ZHANG Y-X — 3331.
ZHANG Z — 9836.
ZHAO C L — 6115.
ZHAO C-L — 8607.
ZHAO X — 7080.
ZHAO Y — 1927, 7558.
ZHONG X F — 96.
ZHONGHE L — 4061.
ZHOU L-L — 4035.
ZHU W — 3224, 7389.
ZHUKOV V V — 7764.
ZHUKOVA L I — 7804.
ZHUN' V I — 3984.
ZHURAVLEV M A — 6483.
ZIEBARTH G — 9005.
ZIEM G E — 7784.
ZIGEL'BOIM S N — 5931.
ZIL'BERMAN E N — 5751.
ZILIC M — 8137.
ZILLIOX J-G — 2324.
ZIMA V — 8690.
ZIMMELS Y — 3764.
ZIMMER D J — 3377.
ZIMMERMANN F — 8744.
ZIMMERSCHIED K — 2417.
ZIMON A D — 583.
ZINOV'EVA N P — 9718.
ZIZIN V G — 5382.
ZOGA C — 7464.
ZOLFAGHARI M E — 3635.
ZOLLER J — 4103.
ZOLLNER W — 7210.
ZONNENBERG H — 5817.
ZORLL P — 7411.
ZORLL U — 2047, 2521, 6166, 6884, 8235.
ZOSEL A — 4476.
ZSCHIESCHANG N — 1774.
ZSEMBERY A — 5457.
ZUBIELEWICZ M — 2250.
ZUCK R A — 8814.
ZUIDERVELD O P — 4572.
ZUKAS W X — 6081.
ZUO J — 6114, 6165.
ZURAKOWSKA-ORSZAGH J — 3704.
ZURER P S — 9824.
ZURRER H C — 10000.
ZWANENBURG R — 9848.
ZWIERS R J M — 2994.
ZYGADLO E — 6524.

SUBJECT INDEX

A

A & W Pine Chemicals Ltd
– 5558
Abbreviations
organisations, world guides – 8956
Abietates
hydrogenated, layers, corona discharge treatment – 4236
Abietic Acid
coatings of, on calcium carbonate – 1704P
Ablation
plastics, lasers treatment – 8634
rate, antifoulings – 410
Ablative Coatings
epoxies
—microspheres (glass)/cork – 6848P
—microspheres (hollow)/ground cork – 9634P
—microspheres/cork – 1884P
polypyrazoles – 165
Abrasion
abrasivity (low), metals (coated) with – 4421P
by sand, windy coastal simulation – 5904
concrete, treatment by, standards – 8920
Abrasion Resistance
See also scrub resistance
acrylics/polyurethanes, blends – 5216
anticorrosives
—ceramics spheres/glass flakes separate – 1796P
—epoxies & ceramics particles, separation – 4338P
cementitious coatings, epoxies/aggregates etc & – 7616P
determination
—aluminium (anodised) – 1443
—printing inks – 7006
—standards – 1415
heat-resistant coatings, silica blends/silanes condensates – 9622P
lubricating coatings, for silicon – 4413
marine coatings, glass flakes etc – 4343P
pipeline coatings
—determination – 8866
—ionomers – 4018
polyurethane coatings – 1859P, 6844P, 9624P
powders for, fluoropolymers – 1503
primers, epoxy phosphates/polyurethanes – 9485P
transparent coatings, grindstone – 6828P
Abrasion-resistant Coatings
acrylics/formaldehyde resins etc – 1662P
against reflection – 6826P
alkyd/melamines, ceramics powders & – 9502P
amino resins/polyols over cured layers – 2771P
application/uses etc – 5197
automobiles windows guiding slots – 1885P
epoxy silanes (hydrolysed)/polyamines (modified) – 4979P
for plastics
— 5197, 7592
—amino resins/polyesters – 1118P
—epoxy silanes/amines (blocked) – 9553P
—silanes (unsatd) over undercoats – 1845P
ovens, binders/particulate fluoropolymers – 5238P
pens etc, silica etc – 1167P
plasma polymerisation, silicon compounds – 2774P
polyesters (hydroxylated) – 9617P
polyesters (unsatd) – 3820P
polyether-imides/fluoropolymers – 6775P
polymers (halogenated), N-halogen bonds – 4093P
radiation-curables
—aluminium oxide (spherical) – 3843P
—for plastics – 629P, 7093P
—magnetic pigments etc – 2140P
—nitrocellulose (unsatd) – 7811P
recording materials (magnetic) – 1014P
silica
— 3587P
—carboxylates (unsatd) & – 5979P
silicones/polymers (amide groups, halogenated) – 2779P
topcoats, grindstone – 6829P
ultraviolet-curables
— 7829P
—morpholine derivatives – 1320P
—phosphates (unsatd)/silanes etc – 3849P
water-borne, silanes/silica etc – 955P
Abrasives
blast cleaning, selection – 4267
bonding, to carriers, adhesives (ultraviolet-curable) – 8797P
carbon dioxide (solid) – 1757
exposure, cutting fluids & – 1277
for blasting
— 5865
—factors/testing – 5881
—plastics – 2643P
—recycling/fluidised treatment – 7056
—selection/dusts/importance – 9346
—slag (copper) – 9369
—slag (zinc) v others – 2634
—steel grit/others – 2634
—various mixtures/effectiveness – 7491
for painted surfaces dusts removal – 1743P
health/environment/post-treatment – 5883
plastics
— 1757
—paint stripping – 6679
pretreatment with, abrasion/polishing, versus blasting – 9429
proprietary – 5859
sanding, types/carriers/equipment/proprietary – 6630
selection – 9363
silica, respiratory protection, equipment/standards – 3768
slag (mineral), heat treatment effects – 3449
steel, recycling, & costs – 1730
urea resins (modified), by furfuryl – 2643P
waxes &, waxes in scratches – 1743P
ABS
coatings, electromagnetic shielding – 5215
coatings for, nitrocellulose/aluminium – 5204P
Absorbents
polyurethane coatings – 169P
Absorption
See also oil absorption
acrylics, on ferric oxide (gamma-) – 2258
by polymers, core/shell structures/kinetics – 3724
moisture
—low, polyether-amines – 5740
—rate etc/conductivity/corrosion – 9431

Absorption *(continued)*
penetrants, by polymers, & effects on absorption others – 8654
water
—coatings, deliberate – 2788P
—coatings, powders (hydroscopic) – 8550P
—epoxies, moduli (ultrasonic) & – 3629
—epoxies, structure & – 3711
—maleic anhydride copolymers – 8112P
—panels (wood) – 4773
—polymers, road marking compsns – 9612P
—polyurethane coatings etc – 6009P
—polyurethane compsns – 4972P
Accelerators
See also curing accelerators
adsorption, on silica, solutions/rubber – 3329
oil paints, polysaccharides – 944P
Accidents
confined spaces, cases (UK) – 561
dioxins (chlorinated), inhabitants monitoring/decontamination etc – 6176
hazardous materials, ships – 547
major
—EEC directives implementation Spain – 3932
—EEC directives, amendments – 1388
—hazards, control, regulations (UK) – 712
occupational, reporting, EEC variations – 7930
record-keeping, regulations (US)/litigation – 6181
spills, industry/government responses etc, USA – 2114
statistics (UK) – 1397, 3081
Accuracy
analysis, determination, absolute value – 6086
Acenaphthalene
copolymers, thermosetting compsns – 2419P
Acetaldehyde
copolymers, with chloral, nature/gamma-rays degradation – 7080
toxicity, livers, & ethanol-derived, tests – 572
Acetals
acrylamido groups, cyclisation/polymers/cross-linking – 2456, 2457
allyl carbamate groups, cyclisation/polymers/cross-linking – 6502
curing agents, for films (polymer) – 812P
cyclic
—amide acetals (difunctional), products – 899P
—amide acetals, adhesives, polyurethane compsns – 2576P
—amide acetals, curing accelerators, ammonium & – 855P
—amide acetals, polyisocyanates (blocked) & – 4107P
—amide acetals, polyurethanes – 4962P
—amide acetals, products carboxylic acids (unsatd) – 4062P
—amide acetals, products, epoxies & – 3247P
—groups, guanamine resins – 434P
—of dimethylpropionaldehyde, acrylates, ultraviolet-curables – 5492P
—polymerisation (cationic), initiators – 9075
—polymerisation (ring-opening), review – 2400
—trichloromethyl groups, alkyds – 435
from ketenes, vapour deposition, coatings – 2646P
from pentaerythritol/dimethylpropionaldehydes – 8302P
of polyols (alkoxylated) – 8027P
polyfunctional, radiation-curables, acid generators & – 7098P
polymeric
—coatings, polymers (chlorinated), acid release/no pretreatment – 9548P
—cross-linking agents – 108
polymers/silyl groups/catalysts &, stability – 9175P
Acetamide
substituted, piperidine groups, stabilisers – 3153P
Acetates
synthesis, from alkenes/acetic – 48
Acetic Acid
activators, paint strippers – 2650P
emissions, sealants – 1021
statistics/forecasts/markets/plants/plans/prices – 9917
surfactants films & – 3726
synthesis, plants (UK) plans – 9956
Acetic Anhydride
synthesis, plants (UK) plans – 9956
Acetoacetate Groups
cross-linking
—mechanisms/incorporation – 2385
—with unsatd – 2384
—with unsatd, catalysts – 4996
moisture-curables, ketimines & – 2525
water-bornes – 5009
Acetoacetyl Groups
chelates, coupling agents (silane) – 7286P
organo-silicons, chelates – 5656P
Acetone
adsorption, on silica, hexane solutions – 2891
hazards/toxicity/uses/properties/safety – 7221
impurities, detection – 8891
neurotoxicity, with/without methyl ethyl – 4576
surfactants films & – 3726
toxicology, haloalkane blends toxicity potentiation – 2949
vapours, detection in air – 506
Acetone-Formaldehyde Resins
water-soluble, synthesis/HPLC/products – 3223
Acetophenone
bromination, agents (polymeric) – 2279
substituted, morpholine groups, photoinitiators – 1304P
synthesis, plants expansion, Italy – 7875
Acetoxystyrenes
polymerisation, with monomers (polyunsatd) – 1582P
polymers
—photoresists, monomers & – 9866P
—solubility parameters – 7700
substituted
—& polymers/photoresists – 8785P
—polymers, photoresists – 8786P
Acetylacetonates
catalysts
—allophanate groups formation – 1616P
—electrocoating (cathodic), polymers (unsatd) – 8228P
—for cyanates – 3302P
coatings
—hydroxylics etc & – 940P
—polymerisables/initiators/allyl compounds etc – 8239P
curing agents, for cyanates – 6511P
pigments coated by oxides & – 5626P
treatment, with plasma, oxides by – 3106
water-bornes, polymers (sulphonated) & – 1663P

Acetylacetone
fluorinated, stabilisers for driers – 68P
undercoats, for plastics, binders etc & – 7598P
Acetylene
polymerisation, review – 3204
polymers, resists – 6221P
reaction, with chlorohydrosilanes – 8157
Acetylene Groups
azomethines, dihydropyridine-containing polymers – 4111P
cyclooctynes polymers – 9069
diphenylpropane (fluorinated) – 7266P
main chain, phenylene &, chromium carbonyl bonded – 922
phenols (hindered), polymers/oxidised polymers – 1561
Acetylene Polymers
precursors (soluble)/uses – 7301
synthesis, from cyclooctatetraene – 2376
Acetylenes
amino groups, products with bismaleimides – 5033P
chlorinated, polymerisation (living) – 159
cyclic, polymerisation (ring-opening) – 9069
difunctional
—aromatic/heterocyclic, polymerisation/cross-linking – 4031
—phenyl groups, copolymerisation – 9065
—phosphates of, resists/insulation – 2985
—polymerisation (solid-state) etc, review – 3203
—polymerisation in phosphonates crystals – 8756
—polymerisation/coatings – 9477
—polymers, colour changes/circular dichroism spectroscopy – 8565
—polymers, reactions/cross-linking – 4125
—silanes, cyclopolymerisation – 188
halogenated, polymers, resists – 6221P
hydroxylic
—polymerisation, catalysts – 4061
—wetting agents etc – 5070P
polyfunctional
—derivatives, extraction – 7263P
—recording materials, radiant energy – 5841P
—recording materials, radiation (ionising) – 5840P
—tetraynes, polymerisation (solid-state) – 8070
polymerisation
—review – 3207
—transition metals/olefins complexes – 4900
polymerisation (metathesis) – 3202
products, imidazolines – 7269P
reaction, with benzocyclobutene groups – 2463
silyl groups, synthesis/polymerisation – 5764
Acetyleneurea
See glycoluril entries
Accidents
See also hazards
Acid Rain
building materials
— 2697
—UK/effects – 7057
coatings against, polymers (fluorinated) blends – 6753P
electrochemical measurements, impedance spectroscopy – 2664
emulsion paints
— 9723
—acid-solubles loss by – 4326
stone, treatment against – 2735P
UK
— 4689
—forestry/agriculture & – 589
weathering (natural, accelerated), impedance spectroscopy – 2663
wood (coated) – 4325
Acid Resistance
abrasion-resistant coatings, silica blends/silanes condensates – 9622P
anticorrosives, phenolics, water effects – 1053
epoxies/siloxanes, chelates/borates & – 1806P
epoxy silicones – 1177P
pigments (orange), mining wastes – 8991P
polymers (fluorinated), low/high MW blends – 6753P
Acidity
dissociation constants, micelles & solvents/water – 6128
indicators, methylene chloride systems – 4489
Acids
acidic materials, spills, control/clean-up – 590P
organic
—exposure limits prediction – 9813
—solid, catalysts – 1492
scale etc removal, compsns – 8374P
scavengers, adhesives – 9262P
Acorn Decorating Products
history/change from Britain – 6290
Acoustic Emissions
book chapters – 7224
coatings, adhesion/tension/swelling – 2835
epoxies, curing – 9730
principles/coatings uses, review – 6997
Acoustic Microscopy
See microscopy (acoustical)
Acoustic Waves
surface
—diffusion/adsorption/pores studies – 1244
—gases detection, pattern recognition – 3693
—olefins monitoring/coated detectors – 1236
—porous materials characterisation – 7717
Acridines
dermatitis (contact) – 552
photoinitiators – 4654P, 9865P
photoresists – 7105P
substituted
—& photoinitiators use – 8780P
—pyridine groups, synthesis/photoinitiators – 3830P
Acrylamide
acrylic/urethanes from – 642P
derivatives
—cellulose modified by – 526
—heterocyclics, polymers, coatings – 6014P, 6015P
exposure limits – 3785
grafting, on polyethylene, corona discharge – 3442
groups
—organo-silicons, ultraviolet-curables, mercaptans & – 9855P
—polyfunctionals, epoxy groups & – 3586P
neuropathy, neurological/electroneuromyographic assessment – 7024
photopolymerisation
—photosensitisers, butanediones as – 1298
—solutions (aq)/photoinitiators – 4867
polymerisation (anionic), hydrogen transfer – 2339
polymerisation (group transfer) – 6466P
skin – 7024

Acrylamide *(continued)*
substituted
—acetal groups, cyclisation/polymers/cross-linking – 2456, 2457
—allyl groups, cyclopolymerisation – 889
—benzyloxymethyl, photocurables – 3852P
—cross-linking agents, polymers & – 6550P
—diamines, photocurables – 7082P
—epoxy groups, monomers/curing agents & – 3586P
—fluorinated, synthesis/uses – 4094P
—Michael adducts – 6571P
—treatment with, hydrophilicity – 9613P
toxicity, chromosome aberrations/micronucleated erythrocytes – 9765
Acrylamide Copolymers
amino groups, primers (water-borne) – 408P
ammonium groups, interactions anions – 6051
carboxylated, modification by aminocarboxylics – 2480P
coatings, chromating simultaneous – 1045P
FTIR (photoacoustic), depth profiling – 4515
modified
—by formaldehyde then others – 235P, 275P
—curables, low formaldehyde emissions – 8092
photoresists – 8782P
self-crosslinkable, heat-curables – 6470P
substituted
—amidomethanesulphonic groups – 4194P
—aminoalkyl, & coatings – 1172P
—ammonium/hydroxyl groups, water-bornes – 4189P
—complexes, corrosion inhibitors – 8439P
—lactams groups (pendent) – 3305P
—of acrylates oligomers, resists – 3844P
—of carboxylated/dienes etc – 7344P
—synthesis presence silanes/silica sol – 1090P
—viscosity control/hydrophilicity control – 8608P
water-bornes, hydrophilicity – 962P
Acrylamide Polymers
anionic, effluents treatment with – 4619
coatings, for aluminium, hydrophilicity – 1668P
hydrolysed, chromatography (hydrodynamic) – 514
modification, by aminocarboxylics – 2480P
substituted
—allyl groups, polymerisation – 4955
—anticorrosives, heterocyclics & – 2698P
—phenols groups, photoresists – 8799P
water-bornes
—for aluminium – 1081P
—for aluminium, cross-linking agents & – 963P
Acrylates
See also epoxy/acrylates, oligoester acrylates, polyester acrylates & acrylic/urethanes
abrasion-resistant coatings, silica & – 5979P
acetoacetate groups, acrylics (cross-linkable) from – 2385
adhesives, half-esters salts (unsatd) effects – 4214
adhesives (acrylic, toughened) – 6581
adhesives (two-component), peroxides/reducing agents & – 8274P
coatings
—for plastics, siloxanes (unsatd) & – 9559P
—for plastics, stabilisers – 1121P
—glycidyl ethers oligomers (unsatd) & – 5705
copolymerisation
—with hydroxyalkyl acrylates – 2434P
—with phosphates (unsatd) – 190
diluents (reactive), requirements – 8752
eczema – 5343
emulsifiers (unsatd) – 9034P
emulsion polymerisation
—latices particles (fine) – 1544P
—surfactants/steric effects – 5661
—theory/experiments – 4016
fluorinated
—coatings – 1877P
—copolymers, with vinyl alcohol – 6485P
—photocurables, fluoropolymers & – 4659P
—polymerisation presence polyesters – 1600P
—radiation-curables, acrylics (fluorinated) & – 1313P
from alcohols (substituted) – 102
from dicyclohexylpropanes (fluorinated) derivatives – 1494P
from naphthalene (hydrogenated) – 7425P
from norbornane diols – 5642P
functional, secondary H, two functional groups – 5643P
grafting, on polypropylene, plasma – 1558
health & safety – 9773
hydantoin rings, photocurables – 631P
hydroxylated
—amide groups (pendent acyl) – 4062P
—photocurables, epoxy/acrylates & – 9839
—products diisocyanates then epoxies (unsatd) – 7096P
—products melamine resins – 8148P, 8149P
—products with maleic copolymers – 4652P
—synthesis/derivatisation – 102
—tetrahydrofuran polymers – 3989P
—ultraviolet-curables/moisture curing – 9890P
mercaptan groups, synthesis/uses – 4134P
Michael adducts, from amines & – 2138P
modified
—by caprolactone, photocurables – 7813P
—by lactones, copolymers, photocurables – 636P
networks, linking blocks, hydratable units – 6480P
of acrylates oligomers with main chain esters – 3844P
of bisphenols (alkoxylated), ultraviolet-curables – 9900P
of butanediols, polymerisables – 2131
of caprolactone derivatives, maleics products with – 4653P
of cyclohexanedicarboxylic acids, half-esters – 3822P
of cyclohexene (substituted), synthesis – 4860P
of cyclohexyleneoxyalkyl compounds – 866P
of decanols (branched), synthesis – 3987P
of dicyclopentadiene (hydrogenated) derivatives – 623P
of diphenyls (hydroxylated), polymerisation – 4920
of ethylhexanediols
—photocurables – 3847P
—ultraviolet-curables – 3846P
of glycerol, products with isocyanates etc – 3325P
of glycerol derivatives, surfactants (unsatd) – 1511P
of glycol ethers, radiation-curables, epoxies etc & – 2177P
of glycols, chain length/gelation – 111
of glycols half-esters with anhydrides – 5486P
of lactones/polylactones – 3274P
of methylbutanediols, synthesis/uses – 9017P
of methyloctanediols, diluents (reactive) – 3143P
of morpholine derivatives – 1320P

Acrylates *(continued)*
of olefin diols (alkoxylated), surfactants – 9038P
of oximes, polymers, amino groups from – 2462
of pentadecylphenols, synthesis/polymers/adhesives – 4057
of phenolic compounds, photocurables – 8808P
of piperazine derivatives (quaternised) – 906P
of polyethers
—adhesives (cyanoacrylate) – 997P
—copolymerisation, solvent effects/gel point – 5712
—copolymers, printing plates – 6216P
—products with melamine – 6220P
—radiation-curables – 635P
of polyethers (branched), emulsifiers (unsatd) – 9035P
of polyol/diethoxyethylphosphonates products – 3309
of polytetramethylene glycols – 3268P
of siloxanes, linked via carbonates – 1297
of spiro compounds, coatings for plastics – 5977P
of succinates (substituted) – 9039P
of tetracarboxylic diesters – 1670P
of tetrahydronaphthylsuccinic compounds – 139P
of thiophosphorus acids – 9892P
of tricyclodecanes (fluorinated) – 8007P
of tricyclodecanes derivatives
— 2151P
—coatings – 1877P
phosphates groups, from polyols (alkoxylated) – 4976P
phosphinates groups – 1640P
photocurables, phenothiazine/cyclohexanediones – 7091P
photopolymerisables – 2152P
photopolymerisation, vinylpyrrolidone &, synergism – 3000
polyethers (unsatd) &, mechanical analysis (dynamic) – 8589
polyfunctional
—adhesives (epoxy) – 5825P
—adhesives (radiation-curable) – 3859P
—coatings (in-mould) – 5205P
—coatings final properties prediction – 6214
—coatings for walls etc – 473P
—coatings, epoxies/organo-silicons etc & – 947P
—conductive coatings, oxides (coated) & – 2795P
—dermatitis – 5370
—electron beam-curables, photo-oxidation/yellowing – 5399
—gel coats, in-mould – 5201P
—Michael adducts – 2138P
—of bisphenols/dicycloalkanes (alkoxylated) – 9896P
—of glucosides – 9191P
—of polycarbonates – 4937P, 9117P
—photo-crosslinking in matrices, kinetics – 3003
—photocurables – 7081P
—photocurables for plastics – 1308P, 1309P
—photopolymerisation, conversion (ultimate) – 2993
—photopolymerisation, monitoring – 2126
—photoresists, phenolics & – 634P
—photoresists/photocurables, ethers links – 3851P
—polymers (ladder) – 4059
—products siloxanes (mercapto) – 4983P
—products with aminosilanes/isocyanates – 929P
—radiation-curables – 621P, 628P
—radiation-curables, exposure/precautions – 5370
—radiation-curables, fluoropolymers (unsatd) & – 9850P
—radiation-curables, silanes (unsatd) condensates & – 8787P
—reaction with acetoacetates groups – 2384
—skin irritation (low) – 9117P
—ultraviolet-curables – 8802P
polymerisation
—by radiation (ionising), adhesives – 6597P
—cross-linking agents/kinetics/autoacceleration – 5710
—inhibitors – 4064P
—presence copolymers, NADs by – 3341P
—presence polyethers/glycolic acid ethers – 4056
—residual monomers scavenging – 270P
polymerisation (anionic)
—alkoxides effects – 4054
—initiators/complexing agents (macrocyclic) – 1594P
—stereochemistry – 2328
polymerisation (group transfer)
— 865P
—kinetics/catalysts – 4046
—scavengers removing hydroxyl – 4892P
polyurethanes & – 2485P
products
—with amines, curing agents – 6836P
—with anhydrides/epoxy compounds – 142P, 143P
—with epoxy esters (unsatd) – 4070P
—with lactones then melamine – 6236P
—with oximes – 176P
—with phosphites – 436
radiation-curables
—health & safety, measures – 5375
—market (European) – 5410
—oxygen inhibition reduction – 9886P
residual, determination, HPLC – 6069
silanol groups, synthesis/uses – 1501P
silyl groups – 5643P
statistics, Brazilian demand – 7838
substituted, alpha-phenyl/beta-methoxy, fungicides – 5955P
suspension polymerisation
—comonomers/modifiers & – 9119P
—polyfunctionals/macromonomers & – 5053P
synthesis
—esterification, presence cerium ions – 7265P
—from ethylene/carbon monoxide – 7270P
—plants (planned) – 3891
—plants (planned), Brazil – 7861
thioethers groups, alpha-, chain transfer agents – 1532
ultraviolet curing, monitoring by FTIR – 2127
ultraviolet-curables
—for plastics – 5430
—optical fibres – 7092P
uranium compounds, polymerisation by radiation – 633P

Acrylic Acid
adducts (self-) esters with polyols – 8114P
copolymerisation
—solvents effects – 5702
—with hydroxyalkyl acrylates – 2434P
copolymerisation (alternating), Lewis acids – 8064
emulsion polymerisation, styrene &, electrolytes effects – 8067
graft copolymers, adhesion to aluminium – 3632

Acrylic Acid *(continued)*
grafting
—on plastics – 340P
—on polymers, hydrophilicity – 99
—on polyurethanes (unsatd) – 7340
plasma polymerisation, plastics treatment – 8348
polymerisation
—presence phosphorus acids – 1575P
—water effects & copolymerisation – 5701
polymers, hygroscopicity – 8550P
products, with glycidyl copolymers – 151P, 152P
recovery, from black acid – 7060P
statistics, Brazilian demand – 7838
storage, dimerisation – 6207
synthesis
—plants (planned) – 3891, 7843
—plants (planned), Brazil – 7861
—plants expansion – 5545
toxicity, chromosome aberrations, lymphoma cells – 2098
Acrylic Acid Copolymers
anti-misting coatings, amino resins precursors & – 2756P
anticorrosives (radiation-curable) – 7519
complexes, corrosion inhibitors – 8439P
electropolymerisation presence, codeposition – 5738
powders, sulphates/sulphonates &, self-emulsification – 2429P
products, with glycidyl esters (unsatd) – 152P
sulphonated, by reaction ammonia/formaldehyde/bisulphites – 4194P
synthesis/uses, review – 8098
terpolymers, composition determination – 9724
viscosity (intrinsic), pH/Mark-Houwink/structure – 8595
Acrylic Compositions
isocyanates/isocyanates groups, chemistry/formulation – 9076
photochromicity, polymers synthesis for – 4650P
pressure-sensitive adhesives (radiation-curable) – 3805
Acrylic Compounds
coatings, allyl compounds etc & – 7376P
phosphates (acidic) groups, adsorption/dispersibility & – 2927
Acrylic Copolymers
adhesives, epoxies/polyethyleneimine & – 996P
adhesives (flame-retardant) – 9271P
amino-functional
—primers (water-borne) – 408P
—printing inks (ink jet) – 9311P
—synthesis presence silanes/silica sol – 1090P
—ultraviolet absorbers (bound) – 3967P
anhydrides groups, coatings, glycidyl & – 7379P
anticorrosives – 6704
antistatic coatings, chlorates/perchlorates/chlorites & – 9626P
barrier coatings, terpene resins etc & – 7391P
blends
—dispersions (aq), hydrazides (polyfunctional) & – 6551P, 6552P
—with polystyrene etc, alkyl groups – 8057P
—with polyurethanes, properties – 5216
block copolymers, by polymerisation (group transfer) – 852
branched, coatings, Michael adducts formation – 4423P
brominated, adhesives (flame-retardant) – 9271P
coatings
—chromating simultaneous – 335P
—epoxy compounds/polyolefins (chlorinated) & – 4410P
—for moulds (casting) – 5993P
—for walls – 8549P
—monomers/mica etc & – 9488P
—polypropylene (chlorinated)/coupling agents etc & – 8519P
—solubility parameters/phase separation – 3497P
compatbility, with polyepichlorohydrin, studies – 6883
compatibility, with polycarbonates – 6476P
composition, NMR – 4216
detackifiers, overspray treatment – 7508P
dispersants (polymeric) – 3152P
dispersions (aq)
—polymerisation for, in solvents – 4176P
—stabilisation (steric) – 224P
electrical insulation, solvents (fluorinated/non-fluorinated) – 4371P
electrocoating, capacitors – 5784
emulsions
— 8198
—thermal insulation – 3591P
epoxy groups
—adhesives, diazonium salts & – 3848P
—coatings, popping avoidance – 874P
fillers (coated) & – 4832P
flow control agents – 493
fluorinated
—acid resistance – 6753P
—anticorrosives for stainless steel – 4347P
—curables, coatings etc – 7336P
—dispersants (polymeric) – 7393P
—epoxy groups, products with carboxylated – 1313P
—modification, radiation-curables – 8792P
—silyl groups, moisture/release properties etc – 9589P
from polyfunctionals, cross-linking groups etc – 1576P
functional, radiation-curables, monomers/tack (dry) – 622P
graft copolymers, anti-misting coatings – 1312P
grafting
—weather resistance, stabilisers & – 5163P
—with liquid crystals, cross-linking & – 4908
halogenated, resists – 3824P
heat-curables, topcoats, chip resistance – 464P
heterocyclics (pendent), photoinitiators, photosensitisers & – 6217P
lactams groups (pendent), heat-curables – 3305P
latices
—cross-linked/fine – 5023P
—electrocoating (cathodic) – 5014P, 5015P
—film formation – 2538
—films, surfactants to surfaces – 6115
latices (fine), synthesis, colloids (protective, surface-active) – 4074P, 4075P
microgels – 938P
modified, dispersants (polymeric) – 7285P
NADs
— 8192
—manufacture/uses – 215P
of macromonomers, pressure-sensitive adhesives – 6600P
of siloxanes (unsatd), hydrolysable groups – 945P
of vinyl alcohol – 1569P

Acrylic Copolymers *(continued)*
organo-silicon groups, moisture-curables – 6540P
oximes groups, photodegradation – 5244P
photocurables – 603P
photoresists, comonomers (absorbing) – 1326P
pigments (polymeric, hollow) – 4242P
pressure-sensitive adhesives (water-borne), testing – 4216
products
—with dyes, inks (hot-melt) – 7436P, 7437P
—with polyesters, polyols & – 9247P
proprietary
—anticorrosives (water-borne) – 2673
—coatings for concrete – 1848
resists, ultraviolet radiation absorption – 7824P
self-crosslinkable
—metallic finishes basecoats – 5234P
—water-bornes (thermosetting) – 6562P
siloxanes groups, pattern-forming materials – 3014P
siloxanes groups (pendent), synthesis/coatings – 3410P
silyl groups
—coatings, oxazolines & – 5847P
—electrocoating – 8217P
—microgels (cross-linked) from – 2557P
synthesis, presence surfactants (unsatd), properties & – 2546
tackifiers, nitrocellulose & – 3388P
urea groups, polyisocyanates & – 1651P
Acrylic Copolymers, Carboxylated
adamantane groups – 4078P
adhesives (water-borne), oxazolines & – 7424P
amino groups
—primers, fluoropolymers over – 3337P
—synthesis – 4086P
branched, high-solids coatings – 3342P
coatings, chromating simultaneous – 1045P
cross-linking, zirconium compounds/properties – 8201
dispersants (polymeric)
— 5031P
—polyvinyl alcohol & – 4002P
emulsions, polydispersity/two-plus Tgs – 3351P
fluorinated, latices (core/shell) shells – 9067P
latices
—carboxyl groups location/interfacial layer thickness – 1240
—chain transfer agents effects – 2844
magnetic coatings, dispersibility factors/absorption – 2258
NADS, comonomers, acrylates/pendent carboxyl – 216P
paper coatings – 5980P, 5981P
phosphates groups (pendent), dispersions (aq)/no emulsifiers – 9222P
photoresists, photosensitives & – 2162P
pigments (polymeric), water-bornes – 234P
polymerisation presence of – 232P
pressure-sensitive adhesives – 3387P
products, with amines/triazines etc photocurables – 5459P
soluble
—from difunctionals etc, cross-linked/non-gelled – 856P
—from difunctionals etc, cross-linking by epoxies – 856P
water-bornes, polyesters & – 9237P
Acrylic Copolymers, Hydroxylated
ammonium groups, water-bornes – 4189P
basecoats, wet-on-wet over – 4430P
carboxylated
—amino groups, synthesis/uses – 9093P
—basecoats, application (wet-on-wet) – 2792P
—cans coatings, polyethers etc & – 4196P
—coatings, basecoat/clear, lower/higher esters – 4993P
—coatings, silanes etc & – 2757P
—heat-curables – 9608P
—synthesis presence hydroperoxides – 146P
—water-bornes for cans – 4197P
—water-bornes, polyesters/amino resins & – 3357P
coatings, over unpolished cured – 7374P
fluorinated, dispersants (polymeric) – 1151P
from cyclics (unsatd) – 144P
from glycol monoacrylates/unsatd polyesters – 9484P
high-solids coatings (thermosetting) – 1119P
interpenetrating networks, isocyanates & – 2364
metallic finishes, fluoropolymers/curing agents & – 4426P
nail varnishes – 6005P
pressure-sensitive adhesives, acrylates (higher) mers – 3385P
products
—with acryloyl chloride, radiation-curables – 5461P
—with triisocyanates – 8150P
silyl/tricyclodecyl groups, isocyanates & – 6797P
synthesis, presence polyolefins (chlorinated) – 6797P
Acrylic Monomers
adhesives, polychloroprene systems – 994
adhesives (contact) – 994
emulsion polymerisation, presence carboxymethylcellulose – 2417
grafting, on silicones – 980P
polymerisation, modelling – 4148
polymerisation (continuous)
—reactors/calculations – 1555
—reactors/calculations/optimisation etc – 1523
polymerisation (group transfer)
—catalysts – 4042
—enolate monomers/initiators – 6465P
—polymers (star) – 6466P
—polymers (star) arms – 4071P
solventless coatings, alkyds/amine salts/polymers etc & – 8238P
suspension polymerisation, monomers/preformed polymers emulsions – 9052
synthesis
—plants in France – 7166
—plants plans, French companies – 7880
Acrylic Oligomers
high-solids, viscosity/temp/MW – 5267
radiation-curables, diluents (reactive) & – 2145P
Acrylic Polymers
adhesives
—epoxies/products of bisimides – 8287P
—low hydrophilic groups percent – 3384P
—rosin &, analysis, characterisation methods – 3660
adhesives (epoxy) – 5047
amino-functional, from acrylics/aminoalcohols – 6471P
anticorrosives, polyethylene (chlorinated) & – 1762
anticorrosives (water-borne) – 1768

Acrylic Polymers *(continued)*
antifoulings, copper/cuprous oxide/rosin & – 5958P
autophoretic coatings, baths stability – 7387
blends, fluoropolymers & – 4952P
block copolymers, ammonium (pendent) – 8658
branched
—high-solids coatings, epoxy/carboxyl groups – 3342P
—unsatd, synthesis/curables – 4923P
cementitious coatings – 936
cementitious compsns, nitrites & – 1805P
chlorinated, gamma-rays effects, triallyl isocyanurate & – 6482
coatings
—adhesion (wet) – 545
—buildings – 453
—defects/spatial distribution – 8409
—fluoropolymers &, low pigmented on high – 9200P
—fluoropolymers (functional) & – 8428P
—for concrete – 2769
—for plastics, silanes (hydrolysed) etc & – 8496P
—for polyvinyl chloride – 8490P
—for wood, oxidative & – 5010
—fumarates copolymers & – 5938P
—heat exchangers fins – 6013P
—hydraulic substances & – 9584P
—market surveys/statistics/advantages – 3870
—over sealers (penetrating) – 3479
—over zinc dust paints – 1763
—polyethylene (chlorinated) & – 381
—silica & – 4345P
—spraying/emissions scrubbing – 4287P
—stripping from wood – 314
complexing agents, degreasing compsns – 2644P
correction fluids – 2601P
cross-linked
—acrylates (residual) determination – 6069
—dispersions (aq) – 1670P
—particles, grafting on – 4084P
cross-linking
— 4013
—catalysts (latent) – 6468P
decorative coatings, weathering – 1783
dispersions, supply problems – 4674
dispersions (aq) – 2417
electrocoating (cathodic) – 1656
emulsions
—carboxylated monomers (difunctional) – 1590P
—epoxies & – 1674P
—manufacture, plants, Japan – 3879
—manufacturers (US) acquisition – 2203
emulsions (proprietary), gloss paints – 8206
exclusion chromatography – 1920
fillers (coated) & – 5627P
fluorinated
—coatings for reactors – 5995P
—electrocoating, stoving above melting – 5794P
—oil repellency/water repellency – 5996P
—resists, cumyl groups (fluorinated) – 9897P
—resists, electron beams/X-rays – 4630
—transparent coatings – 4408P
GC (inverse), interactions with polymers – 1933
GC/MS – 1990
gloss paints (water-borne) – 5005
graft copolymers (metal-containing) – 4939P
halogenated
—alpha-halo, pendent phenylhexaisopropyl – 9124P
—photoresists, novolacs & – 6239P
—resists, phenylhexafluoroisopropyl/alpha-halo – 9893P
high-solids coatings
— 5778P
—for concrete, isocyanates & – 2767
—isocyanates/diols/monoalcohols – 212P
—polyesters/diluents (reactive) & – 7380P
hydrosols, water-bornes – 4179P
industrial finishes (water-borne) – 5008
interpenetrating networks – 8049
lasurs (water-borne), stabilisers/weathering – 5649
latices
—coalescing agents – 5783
—coatings, insolubilisation – 4395
—electrical insulation – 1823P
—thickeners (associative)/surfactants & – 799
latices (core/shell)
—before imaging layers – 1016P
—morphology, factors/non-ideality – 2387
—polymerisation/characterisation – 9574
—water-bornes – 9574
latices (lobed), rheology/pigments binding/paints – 2548
liquid crystals groups – 4167P
liquid crystals groups (pendent) – 7361
lubricating coatings – 3499P
maintenance paints (water-borne) – 3463, 7517, 8382
microgels (cross-linked)
— 968P, 3338
—matting agents – 967P
miscibility
—with polyvinyl chloride, ester groups – 6152
—with styrene polymers – 4483
moisture-curables, acetoacetate groups & – 2525
monolayers, on water, orientation/side groups etc – 2909
monomers (residual), determination – 1216
NADs
—dispersants (reactive), melamine resins – 4998
—topcoats for metallic finishes – 1867P
oxygen in, oxygen (singlet) generation – 838
photocurables, monomers & – 5481P
photoresists
— 8798P
—azides & – 5465P
pigment concentrates – 7959
piperazinium groups – 906P
polymers (fluorinated) & – 6488P
powder coatings
—amines (hindered)/spiro groups & – 1686P
—chemistry/properties/developments – 7410
—fluoropolymers & – 3361P
—multilayered – 8235
powders
—polyvinyl chloride powders &, plastisols – 1718P
—water-bornes, graft copolymers & – 5027P
pressure-sensitive adhesives
—dextrin & – 6592P
—formulation – 268, 3376
—formulation, testing – 5045
—monomers scavenging – 270P
—NADs – 3366
—polyamides & – 998P
—siloxanes & – 5830P
—tackifiers & – 8254

Acrylic Polymers *(continued)*
pressure-sensitive adhesives (ultraviolet-curable) – 3822P
pressure-sensitive adhesives (water-borne)
— 3369, 5805, 9252
—proprietary – 6582
primers (water-borne), chlorinated rubber & – 248P
printing inks (water-borne), metal ions & – 3404P
products
—with epoxies, cans coatings – 9219
—with polyesters, coatings – 6012P
—with polyesters, powder coatings – 1688P
proprietary
— 8045
—automobile refinishing – 3574
reactive, synthesis presence alkenes, coatings – 6543P
resists
— 1325P
—from acrylates (alpha-substituted) – 6230P
—titanates & – 7812P
sealers (water-borne), diluents (reactive) & – 8547P
self-crosslinkable
—acids (blocked)/amino resins – 6558P
—formaldehyde resins & – 1662P
silicone-modified, coatings, cellulose (modified, silyl groups) & – 2708P
siloxanes groups, hydrolysable groups – 4168P
silyl groups
—antifouling paints/hydrolysis (slow) – 7585P
—antifoulings – 424P
—bicycloheptane etc groups – 7368P, 7369P
—coatings against snow – 1135
—coatings, deblocking/isocyanates – 8189
—latices (core/shell) – 4443P
—primers for aluminium – 6835P
—stoving finishes – 9205P
stabilisers (bound) – 59P
synthesis
—emulsifiers, rosin Diels-Alder adducts – 6475P
—emulsion polymerisation (multistage) – 4174P
—joint ventures, France – 9940
—low MW without transfer agents – 135P
—plants (planned), Spain – 5555
—presence acrylics salts, water-bornes – 4640
—presence carboxylated – 4063P
—presence colloids (protective) – 5725P
—presence surfactants (unsatd) – 233P
synthesis/products, manufacturers (US) acquisition – 6305
thermal degradation, pyrolysis/thermo-oxidation – 8635
transparent coatings, transparent over – 4331P
treatment with, & sols – 405P
unsaturated
—fluorinated, radiation-curables – 617P
—water-bornes – 5009
water-bornes
—adhesion – 7642
—automobiles basecoats – 9216
—compatibility with sealants – 4245
water-repellent coatings – 480P
waterproofing, powders (inorg) etc & – 7612P
Acrylic Polymers, Carboxylated
coatings – 5848P
dispersants (polymeric), adsorption – 8657
emulsion paints (gloss), rheology, factors – 2841
photoresists, quinoneimines & – 2161P
powder coatings, amides/carboxylated materials & – 4205P
products, with cellulose derivatives – 471P
water-bornes, for wood – 1661P
Acrylic Polymers, Hydroxylated
carboxylated, by suspension polymerisation, uses & – 2418P
coatings
—dispersants (polymeric)/isocyanates (blocked) & – 1861P
—for plastics, isocyanates compounds & – 9568P
—isocyanates & – 6831P
—isocyanates &, coatings – 4398
—siloxanes/isocyanates & – 8155
coatings (two-component), acrylics (hydroxyl-free)/isocyanates & – 1650P
cross-linking, with isocyanates, curing conditions & – 2440
hardness, Tg/hydroxyl value & – 2520
high-solids coatings, carbamates (hydroxylated) & – 7382P
products
—with cellulose derivatives – 472P
—with polyesters (hydroxylated) – 6832P
—with polyesters, polyurethane coatings – 6542P
—with silanes – 6528P
scratch resistance, polymers (hydroxylic)/melamine resins & – 9601P
synthesis, presence hydroperoxides – 146P
transparent coatings, sec-hydroxyl – 2797P
Acrylic/Melamine Resins
catalysts (latent), toluenesulphonic acid products – 6447
coatings
—adhesion to, moisture-curables – 8528P
—application – 1740P
curing
—faster/conditions – 1732
—FTIR – 6931
high-solids coatings, catalysts (latent) – 2524
liquid crystals groups – 4908
photodegradation, deformation & – 4314
primers, for films (polymer) – 1844P
primers (water-borne), for plastics – 4407P
water-bornes
— 1666P
—polymers (water-soluble) & – 957P
weathering
—gloss retention/chemical etc changes – 5910
—natural/accelerated, chemistry – 8425
Acrylic/Urethanes
adhesives
—for plastics, primers & – 3392P
—polyolefins (halogenated) & – 3390P
—rubber etc & – 3391P
blends
—radiation-curables – 3009P
—solder mask coatings – 618P
carboxylated, electron beam-curables – 612P
coatings, acrylates (polyfunctional) &, predictions – 6214
copolymers, water-bornes – 974P
from alkanolamines/diisocyanates & diols/diisocyanates – 9872P
from alkanolamines/diisocyanates etc & polyols/diisocyanates – 9870P
from benzophenonetetracarboxylic etc – 6210
from bisphenol A (alkoxylated)/lactones – 1622P
from bisphenols (extended) – 8770P

Acrylic/Urethanes *(continued)*
from dienes (conjugated) polymers – 3009P
from diols from polytetramethylene glycols/diacids – 3005P
from epoxies (linear) – 8779P
from glyceryl monoacrylate etc – 3325P
from glycols derivatives etc – 9160P
from isocyanurates
—cyclohexyl groups – 7109P
—radiation-curables – 7110P
from pentaerythritol acrylates – 629P
from pentaerythritol etc – 8811P
from phosphates (unsatd) – 1317P
from phosphates (unsatd) etc – 624P
from polybutadiene, photoresists – 4663P
from polyethers, ultraviolet-curables – 3026P
from polyols (fluorinated), radiation-curables – 5423
from polyols/isophorone diisocyanate/polyols acrylates – 7081P
from polytetramethylene glycols, photocurables – 7108P
from polytetramethylene glycols (modified) – 4649P
from rosin glycidyl ethers – 4647P
from valerolactone (substituted) polymers – 4661P
hydroxylated, products with diisocyanates/polyols – 9871P
interpenetrating networks
— 497
—acrylics/isocyanates & – 2364
—primers – 7545
isocyanate groups
— 9871P
—ultraviolet curing/moisture curing – 3827P, 3828P
light stability, & degradation mechanisms/stabilisers – 1055
optical fibres, thermo-oxidation/stabilisers – 595
organo-silicon groups – 4135P
photo-oxidisable, dyes photoinitiators & – 3831P
photocurables
—from polytetramethylene glycols – 9881P
—optical fibres – 3847P
photopolymerisables, acrylates blends & – 2152P
polyurethane-ureas (unsatd)/diluents (reactive) – 3303P
polyurethanes/acrylates – 2485P
products
—with aminosilanes/isocyanates – 929P
—with siloxanes (amino-functional) – 642P, 932P
radiation-curables
—acrylates (polyfunctional) & – 3861P
—blends, polymers (hydroxylic) & – 1302P
—diluents (reactive) effects – 9848
—magnetic coatings, hydroxylics & – 2140P
—optical fibres – 631P
—water-borne compsns – 3001
siloxanes segments, ultraviolet-curables/properties – 2124
silyl groups, adhesion promoters – 8034P
sulphonated, radiation-curables – 2154P
synthesis/compsns/uses – 6522P
ultraviolet curing, monitoring – 1288
ultraviolet-curables
— 643P
—acrylates/isocyanurates/acetals – 5492P
—contaminants effects – 5426
—from isocyanates/reactives/triamines – 7092P
—hydrogen evolution/stabilisers – 7076
—optical fibres – 3005P
water-bornes
— 8200
—blends/reacted, uses/markets – 2534
Acrylonitrile
carcinogenicity
—review – 9762
—studies, human epidemiology – 7012
copolymerisation, presence diene copolymers – 6800P
copolymerisation (alternating), tetracyclooctanes & – 2443
determination, reaction/GC – 8649P
dimethylformamide &
—carcinogenicity – 2065
—epidemiology – 2066
emulsion polymerisation
—comonomers/modelling – 1548
—copolymerisation, hydrazyl effects – 6432
—emulsifiers blends/comonomers – 3281
—inhibitors effects – 6442
epidemiology – 7012
hydrolysis – 7271P
polymerisation, monopersulphates/thioglycollic acid – 8129
polymerisation (group transfer), initiators – 6491
polymerisation (precipitation) – 3172
polymers
—latices (core/shell), polystyrene cores – 6139
—particles, by spraying, copper sulphide treatment – 1475P
—particles, pigments from – 32P
—pigments (polymeric), dyes & – 31P
—prepolymers from isocyanates, polyols & – 1620P
products, with mercaptans – 3982
thioethers groups, alpha-, chain transfer agents – 1532
Acrylonitrile Copolymers
amino groups, coatings, epoxies & – 403P
blends, acrylics, phase behaviour – 8676
coatings, against insects – 1816P
compatibility, with polyethers, compatibilisers – 797
dispersions (aq) – 8220P
latices (core/shell), dispersions (aq) – 8221P
primers (moisture-curable) – 478P
synthesis, emulsion polymerisation, modelling – 4023
Acrylonitrile/Butadiene Rubber
See nitrile rubber
Acrylonitrile/Butadiene/Styrene
See ABS
Activity Coefficients
– 1971
solvents, in polymers solutions – 7645
Adamantane
See also tricyclodecane entries
groups, acrylics (carboxylated) – 4078P
Additives
– 7688
chromatography (supercritical fluid) – 3648
determination, in polymers – 8957
developments – 7259
directories (US)
— 4146
—producers/properties/trade names etc – 798
ethylene copolymers (oxidised) – 3266P
health & safety data sheets – 4800

Additives *(continued)*
high-solids coatings – 4997
identification, in polymers, chromatography, mixtures – 5300
loss, modelling/factors/minimisation – 7273
manufacturers, joint ventures buy-out USA – 7889
market trends – 4873
paints, world formulation differences & – 6286
polymers &, MS, review – 9694
powder coatings, spraying over particles – 8236P
powder coatings (thermosetting) – 9651
proprietary
— 670
—information on various – 4865
—new, details/German etc suppliers – 57
siloxanes, types/properties balance – 8018
solubility parameters – 7701
spectroscopy – 6888
waxes, incorporation/properties – 8012

Adhesion
acrylics, to heat-curables – 7374P
adhesives
—constrained blister tests – 6860
—for plastics/filled silicone rubber – 9268P
adhesives (cyanoacrylate), initial – 9285P
adhesives (hot-melt)
—ethylene polymers – 9253
—water (hot)/ovens (microwave) temp – 9270P
antifoulings – 9528P
antistatic coatings, to plastics – 6798P
bituminous compsns – 9186P
books, conference papers – 7927
coatings
—silyl groups/substrates interactions – 1878P
—stresses (internal) & – 9645
—to building materials – 3567
—to metals, reduction, factors – 3469
conferences, proceedings – 3102
coupling agents (silane) – 5327
cyanoacrylates copolymers – 9131
determination
— 7742
—acoustic emissions – 2835
—blister technique methods – 6861
—methods – 6882, 8597
—peel tests – 8600
—peel tests, analysis via energy conservation – 6867
—peel tests, deformation effects – 7638
—peel tests, interpretation – 6869
—road marking compsns – 8932
—scratch adhesion tests – 537
—tests/solvent-bornes/water-bornes – 7642
—three-point, steel (zinc-coated)/coatings, SEM etc & – 5269, 5274
epoxies
— 880P, 1570P
—adding cured particles before curing – 2409
—curing accelerators – 122P
—storage/weathering before application – 1284
—to concrete, epoxy-coated rebars – 7551
—to polyethylene, failure surfaces – 2847
epoxies (fluorinated), chemical resistance & – 123P
epoxies/polysulphides, to steel – 8605
epoxy/phenolics, to tinplate – 5252P
ESCA, review – 6889
ethylene carbonate groups & isocyanates/amino resins – 134P
ethylene copolymers, to aluminium, treatment – 5874
ethylene polymers, to aluminium, functional groups – 6037
failure, adhesives (hot-melt), surfaces – 6084
films (polymer), fluoropolymers, surfaces modification – 4465
fire-resistant coatings, primers & – 1830
fluoropolymers
— 883
—methods – 8580
—suspensions of in epoxies – 1863P
fluoropolymers/organo-silicon isocyanates – 210P
graft copolymers, to aluminium, mechanisms – 3632
intercoat
—epoxies (modified)/silica – 1799P
—loss, additives thermo-oxidation – 2489
—polymers (hydroxylic)/titanium compounds – 5651P
—polyols/maleinised products – 250P
—siloxanes (modified) thermo-oxidation effects – 2489
—surfactants/oxidants treatment – 9381P
—transparent coatings, acrylics – 2797P
labels, to glass, factors – 6873
loss
—aircraft coatings – 6804
—anticorrosives, micro-organisms – 8456
—coatings, permeation/underfilm corrosion – 8576
—contaminants, FTIR – 4524
—detection, by ultrasonics – 9744
—tubes, corrosion/notches causes of – 4458
mechanisms, chemical/physical – 7297
moisture-curables
— 461P
—to alkyds etc – 8528P
—to undercoats – 213P
organics, to metals, chemical aspects/binding forces – 2825
paper coatings, diene copolymers (carboxylated) – 3559P
particles, to surfaces, from aq – 7003
photopolymerisables, glycol monoacrylates/anhydrides – 5486P
plastics, to aluminium, plasma polymerisation treatment – 8348
polyamide-imides
— 3589P
—to copper – 7641
polyesters – 3265P
polyether-amides – 5809
polyimides, to polyimides, swelling lower/diffusion (inter-) – 8599
polymers
— 2008
—mechanisms/review – 1258
—to glass, silanes blends treatment – 3722
—to metals, factors/electrochemical potential/models – 2821
polymers (silicon-modified)/adsorption controllers – 5770P
polyurethanes
—to elastomers (treated) – 8596
—to glass, cross-linking density – 5262
powder coatings
— 983P
—epoxies blends – 432P
—ethylene copolymers (modified) – 6579P
—polyamides, acrylics/phenolics & – 5034P
—polyesters – 3364P

Adhesion *(continued)*
—pretreatment & – 5882
—to metals – 4201P
pressure-sensitive adhesives (water-borne), testing/factors – 3371
principles & coatings/adhesives – 6884
printing inks (water-borne), to plastics – 5063P
radiation-curables, phosphonates (unsatd, acidic) – 5484P
sea-anemones, force/secretions – 420
silanes (unsatd) copolymers, to aluminium – 6043
siloxanes
—aluminium oxide/coupling agents & – 1149P
—to non-porous difficult – 9585P
surface energy, determination, disbonding (self-) 3729
testing (non-destructive) – 5329
theory
— 6882
—contemporary views, review – 2820
to aluminium, pretreatment/RH/durability – 2822
to fluoropolymers, surfaces modification – 7497
to galvanised steel, factors/weathering – 7532
to metals
—mercaptan groups – 4134P
—undercoats, oligomers/silanes – 6021P
to plastics
— 4400
—aldehydes/amines treatment – 447P
—treatment against, silica/surfactants – 1122P
—treatment, carbon sputtering – 5886P
to polytetrafluoroethylene, X-rays effects – 7496
to polyvinyl chloride/plasticisers – 3388P
to rubber (vulcanised) – 9569P
to steel, surfactants treatment & – 4263
to steel (zinc-coated)
—molybdates treatment – 5925
—pretreatment – 2645P
to wood (weathered) – 6045
ultraviolet-curables
—parameters – 5422
—to ultraviolet-curables, groups – 5430
—ultraviolet full depth – 7823P
undercoats, epoxies (modified)/silica – 1799P
vinyl acetate polymers/cross-linking groups – 2456
vinyl alcohol polymers, silicon-containing – 1643P
water, to polymers, work of – 6982
water-bornes
—humidity – 4403P
—polyols/maleinised products – 250P
wet
— 6696
—determination, tear-off time – 1185
—emulsion paints, monomers for – 2830
—substrates (various)/coatings(various) – 545
—to aluminium, factors/improvement/corrosion resistance – 2657
—to phosphating on zinc-coated – 4282
—to phosphating on zinc/nickel – 4269
—zircoaluminates – 2297
zirconium chelates (polymeric) – 6044

Adhesion Promoters
acrylic/urethanes, silyl groups – 8034P
acrylics, blends, hydrazides (polyfunctional) & – 6552P
adhesion (intercoat), surfactants/oxidants treatment – 9381P
adhesives (epoxy) over, immersion tests – 267
amides (unsatd), complexing agent groups – 3154P
amines, for plastics/adhesives – 5128P
aminosilanes (cyclic), for siloxanes – 3999P
aziridines groups – 9040P
benzylamine (hydroxylated) – 1073P
boric acid/silanes, before polyolefins – 327P
coupling agents (silane), proprietary/recommendations etc – 4872
cross-linking agents/coupling agents – 6412
dibenzylamine (hydroxylated) – 1074P
epoxies/polydienes & – 9274P
for aluminium – 2657
for concrete/inserts – 4425P
for epoxies – 5120
for metals, reaction, permanence – 9571
for polypropylene – 8487
for titanium alloys, adhesives & – 7636
methylstyrene polymers, for adhesives – 5813
organo-silicons (fluorinated) – 3457P
phenol/amine-formaldehyde resins – 1072P
phosphonic acids (amino-functional) – 2777P
photocurables, hydantoins – 630P
plastisols & – 8591
plastisols containing, topcoats over – 9327P
polyamines (modified) – 3379P
polycarbonates, from triptycenes – 8275P
polyester-urethanes, coatings for plastics – 1119P
polymers
—acidic groups/silicon-containing groups – 4433P
—mercaptoacetate groups – 6039
polymers (hydroxylic)/silanes – 8032P
radiation-curables – 71P, 637P
silanes
—blends – 3722
—for adhesives (water-borne) – 7423P
silanes (mercapto) – 5485P
silanes (unsatd) – 6423P
silica/metals (trivalent) treatment – 325P, 1738P
titanium compounds
—interactions, aluminium oxide & – 6887
—pyrophosphates/other groups – 5651P
zircoaluminates, adhesion (wet)/corrosion resistance – 2297
zirconium compounds, for inks – 2304

Adhesive Labels
See labels

Adhesive Tapes
manufacturers (European) – 8839
peeling, theory/force/rates – 3622
pressure-sensitive adhesives, types/properties/markets – 8838
radiation-curables, glycol ether acrylates/epoxies etc – 2177P
release agents, vinyl chloride/urethanes copolymers – 3386P
shelf-life, ageing (accelerated) tests & – 8249
temperature (low/high) – 3373

Adhesives
See also conductive, cyanoacrylate, epoxy, hot-melt & pressure-sensitive adhesives, glues, self-adhesive entries & 'adhesives, acrylic'
acrylamide copolymers (substituted/carboxylated), of dienes – 7344P
acrylates
—silanol groups – 1501P
—tetrahydronaphthylsuccinic acids derivatives – 139P
acrylates/aminosilanes/isocyanates products – 929P
acrylic/urethanes – 1622P

Adhesives *(continued)*
additives
—block copolymers, siloxanes – 6422P
—thickeners/surfactants/foaming control – 8262
adhesion promoters – 9571
aerosols types, methylene chloride exposure – 1271
ageing, carbonyl/hydroxyl formation – 5812
anaerobic
— 8257
—computers disc drives repair – 7417
—monomers/initiators/heterocyclics – 8286P
—replacement, microcapsules/reactives – 8258
—stability (storage), polymerisables/accelerators/tin compounds – 2586P
—temp (low) – 8286P
analysis, techniques/review – 8627
analysis/characterisation, methods – 2888
attapulgite – 9026
automobiles
—use/forecasts (US), sealants & – 7855
—without primers – 3390P, 3391P
azomethines
—mono-/difunctional mixtures – 2584P
—shrinkage reduction – 8276P
azomethines/glycidyl compounds – 2582P
biocides, dithiolones/thiocyanates/isothiazolinones – 1814P, 2738P
block copolymers, book chapters/formulation – 8248
blocking resistance, agents – 1517P
bond strength
—determination – 3946
—temp (low/high) – 1698P
—wood/plastics – 1439
book chapters – 5598
books, conference papers – 7927
butyl rubber – 8251
characterisation, modern techniques – 3660
chitosan derivatives – 6849P
classification, codes, standards – 1408
contact, acrylic monomers role – 994
corrosion & – 2672
corrosion resistance, epoxies, epoxy/urethanes & pigments – 6601P
coumarone/indene resins, plasticisers/solvents – 8282P
cured, pH of water containing powders from – 1404
curing, monitoring, ultrasonics – 4533
cyanates/bismaleimides – 6521P
cyclopentadiene copolymers – 9265P
decalcomanias, forming topcoats after transfer – 1019P
definitions, standards – 1436
directories (America, North), & raw materials/equipment etc – 7854
directories (Italian) – 5607
directories (UK), decorating directories entries – 4806
directories (UK)/yearbooks – 2238
divinylbenzene polymers (modified) – 5691P
drying, monitoring, ultrasonics – 4533
dyes (bound) – 7247P
electrical insulation
—dimer acids (epoxidised)/polymers – 1701P
—microspheres (hollow) – 5823P
electron beam-curable
— 5415
—maleimides (polyfunctional) etc – 2173P
—monomers (residual) determination – 1222
—polyurethanes (unsatd) – 910P
—properties etc – 987
electrostatic application, discs (rotary)/diluting solvents – 6668P
epoxies/polydienes/curing agents/adhesion promoters – 9274P
epoxy/novolacs – 3250P
epoxy/polyesters
— 126P
—shrinkage (lower)/non-reactive polyesters – 8284P
equipment (proprietary), application/testing/manufacture etc – 5803
ethylene carbonate groups – 134P
ethylene copolymers (modified) – 3217P
ethylene copolymers/hydrocarbon resins – 9266P
fast-curing – 4088P
films
—epoxies/glycidyl ethers (polyfunctional) etc – 8100P
—for metals, without primers – 3389P
flame-retardant
—acrylics/phosphorus (red)/brominated – 9271P
—epoxies, mercaptans on oxides – 7590P
floors/carpets, solvent-bornes replacement, & low solvent – 8255
floors/walls
—labelling/certification – 8950
—standards – 9997
for aluminium, pretreatment, bonding/humidity – 5863
for metals, coupling agents before – 6407
for metals foils/laminates – 3383P
for oxide-containing substrates – 9606P
for packaging, polyurethanes – 992
for plastics
—acrylic/urethanes, primers & – 3392P
—adhesion promoters, polyamines (modified) – 3379P
—polymers & solvent blends – 3380P
—pretreatment with flames, failure locus – 2628
—pretreatment, plasma – 6644
—primers, adhesives faster drying – 3556P
for plastics sheets/steel – 6594P
for plastics/steel, polyesters (modified)/isocyanates – 4222P
for polypropylene, block copolymers/tackifiers/plasticisers – 2587P
for polypropylene/steel, pretreatment – 5868
for polyvinyl chloride, graft copolymers – 5709
for rubber/fibres, nitrile rubber blends/resins – 3381P
for silicone rubber, fillers in substrates – 9268P
for silicone-coated etc substrates – 9287P
for steel (coated)
—coil coatings – 9570
—tack bonding – 8247
for steel (zinc-coated), durability/corrosive environments – 2569
for veneers etc, amino resins/latices etc/fillers – 9273P
for waterproofing sheets/concrete or mortars – 9289P
for wood
—bond strength (initial) – 2580P
—factors/standards – 264
—insecticides – 4367P
—standards – 3948

Adhesives *(continued)*
—types/selection/specification etc – 4207
—urea resins, standards – 3089
—wood extractives removal/bonds durability – 2846
formaldehyde, plants (planned) – 7894
glossaries of terms relevant to – 9993
glycidyl copolymers (modified)/monomers – 153P, 438P
glycidyl copolymers/acrylic acid products – 151P
graft copolymers
—from aziridines macromonomers – 2375P
—nitrile rubber/methyl methacrylate – 988
—polyurethanes/vinyl esters – 9148P
graft copolymers/tackifiers/amines – 9261P
heat-resistant
—acrylics/epoxies/products of bisimides – 8287P
—epoxies/glycidyl ethers etc – 8275P
—for glass – 5401
—for polyolefins – 996P
—magnetic cores sheets bonding – 9279P
—maleimides/silylbutadienes – 2782P
—polyamic acids – 1000P
—polyether-imides – 177P, 1700P
—polyether-imides from sulphones – 8279P
—polyimides (aromatic), sulphones etc links – 8147P
—polyimides/powders – 9264P
—silicates/silica/fillers/metal powders – 6010P
—vinyl chloride copolymers/acrylics – 9263P
—wallpapers prepastes – 5832P, 5833P
heating (induction), thermoplastics/orientated fibres – 9286P
hexene polymers (modified) – 9113P
high-solids
— 3377
—polypropylene (grafted)/polyolefins – 2530P
—solids content determination – 6119
hydrocarbon resins – 95
hydroxyalkyl acrylates/acids chlorides products – 1591P
infrared transmission – 5050
inorganic, chariots (historical), China – 4219
interactions/enthalpies/adhesion – 2571
isoprene polymers, additives – 3382P
joints
—durability, adhesion/corrosion/polymer chemistry – 2672
—water &, diffusion/strains changes – 4565
kaolin – 9026
laminates
—effects on properties – 4475
—siloxanes/cross-linking/acid scavengers – 9262P
latices, particles (fine, cross-linked) – 961P
maleic anhydride copolymers – 4934P
maleic copolymers – 9112P
manufacturers, Australian etc interests acquisition – 2204
manufacturers (Australian), acquisition – 6308
manufacturers (French), acquisition by French – 695
manufacturers (German), joint ventures – 7163
manufacturers (Italian)
—acquisition – 3065
—acquisition by US – 3064
manufacturers (Swedish), financial performance – 2197
manufacturers (UK), quality assurance – 2034
manufacturers (US)
—acquisition – 3909
—acquisition by UK – 7904, 8846
—acquisition of – 705
—businesses transfer – 7161
microgels (reactive) – 2336
mixing, viscoelasticity testing – 1189
modifiers, content, determination – 1402
moisture-curable
— 8257
—acid chlorides as stabilisers – 1621P
—acrylics/polyethers, both organo-silicons – 6540P
—azomethine compounds storage for – 2583P
—maleic copolymers/blocked polyamines – 3343P
—polyisobutene/silyl groups – 4163P
—polymers/silyl groups/condensed silanes – 9206P
—polyurethanes – 3377, 4209
—siloxanes/catalysts etc – 5004P
—silyl groups (Si-S)/isocyanates – 217P
—silylthio/isocyanate – 5852P
—urethane prepolymers – 461P
NADs
— 215P, 6541P
—macromonomers copolymers – 8065P
nails (artificial) &, dermatitis – 559
novolacs (fluorinated) – 4950P
offshore structures – 5049
olefin polymers (modified) – 9277P
optical fibres, epoxies (fluorinated) – 3322P
optical properties, mechanical/durability properties & – 5050
orthoesters (bicyclic) groups, polymers with – 8115P
packaging &, regulations (US) – 2220
peel strength, book chapters/review – 8600
phenol/urea-formaldehyde products melamine resins – 1624P
phenolics/curing accelerators – 868P
phenolics/polyvinyl acetal products – 1155P, 1156P
polyamides (fluorinated) – 931P
polychloroprene, acrylic modifiers – 994
polyester acrylates
— 2431P
—from hydracrylic acid etc – 3272P
polyester-urethanes – 173P, 6844P
polyesters
— 9123P
—from diacids/glycols/hydroxymethylbenzoic – 9108P
—synthesis for – 9109P
polyesters (unsatd)
—benzyldimethylamine/derivatives/amines & – 1827P
—inhibitors – 8104P
polyesters (unsatd)/urethane prepolymers – 1690
polyesters/amines/polyisocyanates etc – 172P
polyethers (unsatd)/unsatd compounds etc – 861P
polyimides
—from benzhydrols – 890
—from imidazoles (amino-functional) – 2477P
polyisobutene – 8251
polyisocyanates/mercaptans, low hygroscopicity – 8280P
polylactones (unsatd) – 2432P
polymers (hydroxylic)/isocyanates/silanes/zeolites – 8272P
polymers (self-crosslinkable) – 3197P

Adhesives *(continued)*
polymers for – 741
polymers/pendent acrylates – 152P
polymers/silyl groups, oxides/hydroxides & – 1163P
polysaccharides, from bacteria (marine) cultivation – 7416
polystyrene/coumarone resins/wastes etc – 9288P
polyurethanes
— 9157P
—adhesion to elastomers (treated) – 8596
—chemistry/properties/components – 992
—cohesion/pot-life/fillers – 9267P
—coupling agents blends – 8285P
—formulation – 266
—from polybutadiene/prepolymers – 9284P
—novolacs (alkoxylated) in – 1071P
—pressure-sensitive initial – 5820P
—uses/proprietary products – 1691
—vehicles (motor)/part pre-cured – 5051
—zeolites/minimal foaming – 8273P
polyvinyl alcohol (modified), ammonium groups – 6467P
polyvinyl butyral/phenolics/epoxies – 3383P
polyvinyl chloride
—epoxies &, interfaces/dehydrochlorination/dicyandiamide segregation – 7414
—interfaces ESCA/dehydrochlorination – 7415
powders, polymers/photochromicity – 9062P
primers for
—alkoxides hydrolysis – 4417
—coupling agents/fatty compounds – 6024P
printed circuit boards
—before plating (electroless) – 2585P
—copper migration prevention – 269P
proteins (synthetic), mussels adhesives analogues – 5804
radiation-curable
—acrylamide (substituted) – 3852P
—acrylic/urethanes blends etc – 1302P
—acrylics/monomers, initiators-free – 5481P
—advantages/technology/uses – 7810
—benzophenones – 2155P
—chemistry/curing equipment/uses etc – 8758
—epoxies blends – 4662P
—epoxies/acrylates etc – 3859P
—epoxy/amine adducts – 1327P
—films, shaping/half curing – 644P
—monomers/phosphonates (unsatd) – 5484P
—polyester acrylates – 625P, 1318P
—polymers (hydroxylic)/isocyanatoethyl methacrylates – 5472P
—properties/reasons for use – 987
—refractive index, fluoropolymers etc – 4659P
—semiconductors bonding – 2578P
—siloxanes (unsatd)/isocyanurates (unsatd) – 5488P
—statistics/forecasts (US) – 7140
—titanates (unsatd) – 5482P
—ultraviolet/visible – 2125
raw materials, proprietary products, books – 7218
receptivity to, inks (screen) – 7115P
release films over – 8554P
resins, starch (amylaceous) detection – 1400
room temp-curable, developments/review – 8257
rubber (natural), book chapters – 8245
sagging resistance – 2576P
semiconductors manufacture, polyimides/powders – 9264P
sheets, heat-sensitive, for plastics – 8277P
shoes, polychloroprene/adhesion promoters – 5813
silica (fumed), hydrophobicity – 9025
silicones powders – 7366P, 7367P
siloxanes, bismaleimides of – 6527P
silyl groups – 4140P
solids content, determination – 1403
solventless
—compliance systems/application/green strength/viscosity etc – 3377
—polyurethane-ureas (unsatd) – 3303P
space/harsh environments, conferences – 4796
speciality, manufacture, joint ventures, India – 7885
spiro compounds, orthocarbonates – 6477P, 6479P
spraying, solvents exposure – 2967
stamps (postage), FTIR – 3690
standards
— 1441
—Italian/international/European, situation/lists – 5590
standards (Italian), lists – 9992
starch, from potatoes, wet strength – 5817
statistics/forecasts, Japan Adhesive Industry Association – 3871
statistics/markets – 3049
structural
—aircraft, uses/problems/adhesives – 4215
—history/types/uses/Indian developments – 1692
—joints/stresses/calculation – 8252
—testing, moisture/fracture resistance – 7699
substrates (oil-contaminated), tolerance – 989
surfactants (unsatd) – 804P, 805P
tack
—insects/animals trapping – 2579P
—microspheres – 9256P
tackifiers
—book chapters – 8263
—cyclopentadiene copolymers (hydrogenated) – 835P
—hydrocarbon resins (modified) – 5816
tanks (petrol) – 9277P
testing, constrained blister tests – 6860
thermosetting
—amino resins, zwitterions groups – 286P
—curing, heating/electromagnetic, modelling – 8256
—cyanates/aromatics – 4112P
—for steel/polymers films – 3384P
—imides (unsatd) etc/stabilisers – 5753P
—lamps reflectors – 5807
—maleimides, allyl groups – 908P
—maleimides/dibenzalketones – 6507P
—orthoesters groups – 4938P
—polyamides (aromatic) – 2474P
thiocarbamates, from polyisocyanates – 6515P
thioethers (unsatd) polymers – 3327P
thixotropic
—polyamide-imides solutions/resins solutions – 9297P
—polyurethanes – 8316P
thixotropic agents – 1510P, 8020P
treatment, on substrates, adhesion reduction – 2973
trichloroethane, safety/performance/environment etc – 9006
trifluoromethylstyrenes polymers – 886P

Adhesives *(continued)*
two-component
—acrylates etc one surface/amines other – 1696P
—polyisocyanates/polybutadiene (functional) – 6599P
—polyurethanes, open time/green strength – 2576P
two-pack, polyurethane polyols/polyester-urethanes – 9283P
types/pretreatment/properties, review – 5042
types/uses/curing etc, overviews – 4208
ultraviolet-curable
—acrylics/epoxy groups/diazonium – 3848P
—coupling agents/durability/optical properties etc – 6159
—for glass, heat resistance etc – 5401
—for glass, pretreatment/properties/curing etc – 4213
—formulation, radiometers use – 7807
—iodonium/electron donors/photosensitisers – 8797P
—optical scanning systems – 2994
—polymers (unsatd) – 5401
—properties etc – 987
—refractive index, polysulphides/acrylates – 9902P
—silicones/adhesion promoters – 8034P
—siloxanes – 2169P
—substrates (thin)/stresses relaxation – 3848P
—ultraviolet (low intensity) – 5448
—ultraviolet then moisture – 9890P
underwater, offshore structures repair – 5041
underwater systems, types/curing/advantages etc – 4211
urea resins
—plants (planned) – 1375
—standards – 1407
urethanes (unsatd) copolymers – 9143P
vinyl acetate polymers, standards – 1405
vinyl alcohol polymers, silicon-containing – 1643P
vinyl ethers polymers – 8232
viscosity, tests – 9999
water resistance, imidised polymers (neutralised, partially) – 4221P
water-borne
—acrylics, synthesis presence carboxylated – 4176P
—acrylics/oxazolines – 7424P
—book chapters – 8246
—carboxylated compounds/polymers – 4183P
—casein powders, standards – 1406
—cross-linking methods/curing agents, review – 993
—dispersions, advantages/statistics/modification etc – 2572
—dispersions, types/binding mechanisms/factors – 4217
—ethylene copolymers, status/uses/future impact – 2573
—ethylene/vinyl acetate copolymers – 6589P
—for packaging food – 6587P
—for packaging, strength/costs/volatiles/types – 5043
—for plastics, polymers/epoxies – 2577P
—for plastics, tackifiers – 5819P
—for polyesters (metallised)/paper – 5039
—for polyolefins – 996P
—graft copolymers, polyesters (unsatd)/acrylates (alkoxylated) – 4182P
—graft copolymers, polyolefins/carboxylics – 5191P
—isocyanates (blocked)/polymers – 3350P
—laminates – 5040
—latices/rosin/EDTA – 5828P
—microcapsules crushing on assembly – 8258
—particles (core/shell), thermal delayed tack – 8278P
—permeability, water vapour – 5822P
—polymers (carboxylated)/polyurethanes – 4188P
—polymers (carboxylated)/polyurethanes/aziridines – 9307P
—polymers/epoxy compounds/isocyanates – 1697P
—polysaccharides/polyisocyanates – 8179P
—polyurethanes – 266
—polyvinyl acetate/adhesion promoters – 7423P
—polyvinyl acetate/coupling agents etc – 8288P
—polyvinyl acetate/ethyl silicate/aluminophosphates – 3356P
—properties/proprietary products – 4218
—solids content, determination – 1401
—starch/latices – 6590P
—transparency, acrylics/modified rosin – 4220P
—urea resins (ammoniated), viscosity – 6586P
—vinyl acetate copolymers/polyvinyl alcohol – 5829P
—wallpapers, optical brighteners etc – 981P
Adhesives Industry, European
West, market size/technology/trends, Japan/USA & – 3049
Adhesives Industry, French
statistics – 9916
Adhesives Industry, Japanese
market size/technology/trends, Europe/USA & – 3049
statistics – 5500
Adhesives Industry, UK
companies, manufacturers/raw materials suppliers – 2238
statistics – 4692
statistics/forecasts – 4688
Adhesives Industry, US
market size/technology/trends, Europe/Japan & – 3049
pressure-sensitive adhesives, & tapes – 8838
raw materials/acquisitions/statistics/market/products etc – 6284
statistics/companies, products/plans – 6271
statistics/foreign companies acquisitions in – 6258
Adhesives Industry, World
statistics/foreign companies acquisitions in – 6258
Adhesives, Acrylic
See also adhesives (anaerobic)
acrylates
—from naphthalene (hydrogenated) derivatives/hydroxy acrylates – 7425P
—half-esters salts (unsatd) effects – 4214
acrylates/elastomers/peroxides – 9278P
acrylates/mercaptan groups – 4134P
acrylics
—from acrylates (hydroxylated)/anhydrides – 1587P
—from cumyl isocyanates (unsatd) – 2483P
acrylics (carboxylated), adamantane groups – 4078P
acrylics (fluorinated) – 3279P
acrylics/triisocyanates – 8150P
book chapters/review – 8261
coatings over, vinyl chloride polymers – 1153P
epoxies/polyethyleneimine – 996P

Adhesives, Acrylic *(continued)*
for plastics, odours (mercaptan) avoidance – 5826P
for steel/polymers films, acrylics etc – 3384P
formulation, monomers used – 8261
manufacture/problems/properties/markets – 8266
odours (reduced) – 9278P
polymers (chlorinated)/particles (core/shell) – 1696P
reactive, for aluminium, bond strength – 9638
toughened
—acrylates/chemistry/mechanical properties etc – 6581
—morphology – 6996
two-component, acrylates/peroxides/reducing agents – 8274P
uses – 989
water-borne compsns
—acrylics/tackifiers – 4220P
—market shares increase/reasons/application etc – 8265
—tackifiers – 8265
water-glass/chlorohydrin products/polyacrylamide etc – 7422P
Adipates
toxicity, book chapters – 4809
Adipic Acid
conformations, in aq alkali, helices – 1203
exposure limits, prediction – 9813
Adler-Werk Lackfabrik
history/products/plants/computers etc – 4734
Adsorbents
carbon, from phenols/olive stones – 2035
carbonaceous materials, from novolacs/cottonseeds – 2036
coatings containing, & polyolefins (carboxylated) – 3489P
montmorillonite (modified) – 8738
Adsorption
accelerators, on silica, solutions/rubber – 3329
acetone, on silica, hexane solutions – 2891
acrylics
—on pigments, solvents effects – 1243
—phosphates groups, on iron oxide – 2927
additives, on pigments – 6986
alkyds, on titanium dioxide – 2017
aromatics, on titanium dioxide – 6146
by solutions, kinetics, diffusion importance – 8680
carbon monoxide, on titanium dioxide – 9733
contaminants, electrocoating baths – 2641P
coupling agents, on silica, NMR (silicon-29) – 6991
curing agents, on oxides – 7590P
dispersants (polymeric), on iron oxide – 8657
equations, statistical mechanics – 9736
gases, electron tunnelling microscopy (scanning) – 9661
graft copolymers, on mica, forces between surfaces – 4540
hydrocarbons (unsatd), on metals – 5278
ions, on oxides, physical/chemical, separation – 9745
isotherms
—determination, HPLC – 3727
—surface area determination – 3719
—surface area/pore size – 1244
microgels, on pigments – 817
on mica, desorption & – 748
on silica – 3763
on surfaces, fluorescence spectroscopy – 4495
organics, on barium sulphate (modified) – 4534
organo-tins, sampling/determination errors – 7655
phthalic acids, on oxides, orientation – 9737
polyester-urethanes, on chromium dioxide – 4536
polymers
—conformations, surface geometry/fractals – 9735
—free ends, polymer brushes theory – 6143
—from solutions, surfaces curvature/roughness – 538
—incomplete, forces between surfaces/concentrations – 4563
—modelling/flow – 8664, 8665
—on mica, torsion microbalances – 2934
—on particles, curvature/thickness – 7702
—on particles, flocculation – 6990
—on particles, particles interactions – 8677
—on pigments, calculation – 2251
—on pores, flow through/shear thickening – 4457
—on rough, theory – 6123
—on silica, NMR (deuterium) – 6966
—on titanium dioxide – 2911
—review – 2032
—theory – 4560, 8689
polymers (soluble), on NADs – 9213P
polymers/copper(II) complexes, initiation by – 8042
polystyrene, on silica, isotherms shapes/kinetics – 9749
Raman spectroscopy (surface-enhanced) – 6913, 8629
solvents, cleaning compsns use & – 4281
surfactants
—at interfaces – 8671
—on oxides, alternate anionic/cationic – 2023
vapours, on dusts, & inhalation – 4564
vinyl chloride, on carbon – 1435
volatiles (org), on carbon – 1426, 1427
volatiles (org) etc, on carbon – 1431
water, from toluene, drying – 2283
Advanced Glass Treatment Systems
joint ventures, glass containers coatings – 5538
Advertising
expenditure, DIY campaigns – 5518
job vacancies, Farbe Lack – 7146
paint industry (French)
— 6279
—expenditure – 7131
Aerosol Paints
cans/agitators/valves/propellants/types etc – 7605
gloss, mica – 6017P
statistics (US) – 7605, 7839
Aerosols
adhesives, methylene chloride exposure – 1271
air pollutants, Los Angeles, GC etc – 7055
ammonium, determination, flow injection analysis – 1225
anti-assailant, not graffiti – 1157P
cans, transport, regulations (German/international) – 5588
charged, single charge, generation – 7722
chlorofluorocarbons, use reduction EEC – 7198
combustion, emissions, stacks sampling – 6075
epoxies, spraying/epoxy groups contents – 9688
fire hazards
—chlorofluorocarbons replacement – 6188
—storage/display & – 7028
fires, protection/storage/display – 7029
paints, stoving ovens exit gases – 9807
reactors, modelling – 6

Aerosols *(continued)*
sampling etc, review – 7660
water, particle size determination – 3745
Aerospace
See also space entries & spacecraft
ablative coatings – 6848P
adhesive tapes, temp (low/high) – 3373
adhesives – 4215
adhesives/sealants/coatings, review – 4212
coatings
—compliance systems – 1131
—compliance systems/US Navy – 9576
—high-performance/compliance systems – 1128
—manufacturers (US), acquisition – 9955
—manufacturers (US), plants – 5568, 7853
—rain/erosion testing, standards – 3942
—standards – 6352
coatings (inorg), chromium oxide/phosphorus acids etc – 445P
coatings (proprietary) – 1127
coatings/sealants/finishes, standards – 7925
films, coating/laminating of, companies (US) – 7865
oxygen (atomic), etching/undercoats protection – 9756
primers, encapsulation – 2683
resins &, radiation effects – 3002
Ageing
accelerated
—data analysis, predictions/probability – 8407
—probability procedures – 8410
—wood (treated) – 7212
adhesives, carbonyl/hydroxyl formation – 5812
adhesives (epoxy), monitoring/fillers involvement, viscosity etc – 5044
asbestos cement, mechanical properties & – 7639
cellulose triacetate – 348
coatings, stresses (internal)/cracking etc – 1779
concrete – 7465
data analysis, predictions/probability – 8408
elastomers, pressure-sensitive adhesives & – 8249
epoxies (cured) – 1899
fusion-bonded coatings, before use – 8231
intumescent coatings, tests (accelerated) – 3550
magnetic tapes, temp/humidity – 4235
particle board, RH/temp & – 5931
plastics – 5315
polyesters (cured), thirty deg C, properties & – 1892
polyesters (unsatd), inhibitors effects – 8089
polyvinyl alcohol, solutions (aq) – 5324
resistance, paper coatings – 3004
thermal, resistance, wire coatings – 1824P
wood (treated) – 3938
Agglomerates
detection, in melts, on-line – 6142
Agglomeration
magnetic pigments – 4550
modelling, computers simulation – 6137
resistance, pigments encapsulation – 2329
Aggregates
anti-slip coatings, transparency – 9595P
colloids, networks, rheology – 3619
silica, electron microscopy/image analysis – 2936
Aggregation
colloids, modelling, review – 4556
kaolin
— 22P
—structured products – 23P
latices, light scattering disymmetry – 6963
modelling – 2936
Agricultural Equipment
anticorrosives
—titanium phosphate etc – 9472
—waxes – 9460
coatings, alkyds, atomisation – 8370P
electrocoating (cathodic)
—as topcoats – 1656
—finishing lines – 4274
finishing, plants/polyurethanes (two-component) – 5111
polyurethane coatings (two-component) – 4412
Agriculture
buildings, asbestos cement roofs degradation – 1811
Air
aldehydes in, determination – 1963
amines (polyfunctional) in, sampling/determination – 7674
amines in
—determination, sampling/analysis – 1946
—sampling/GC – 9652
ammonia/ammonium in, determination, flow injection analysis – 1225
butyl acrylate in, sampling/GC – 9674
butyl methacrylate in, sampling/GC – 9674
chlorine in, determination – 3646
chromium in, determination, soluble/insoluble – 1425
cyanoacrylates in, sampling/GC – 6912
diisocyanates in, sampling/chromatography (ion-pair) – 9686
dryers for, for spraying – 6623
ethyl acrylate in, sampling/GC – 9718
filtration – 298
formaldehyde in, determination – 1205
fungi in, sampling, equipment/media comparison – 7581
isophthalic acid in, determination, sampling/GC – 6066
lead in, determination, AAS – 1424
methylene chloride in, determination – 1924
organo-lead compounds in, sampling/determination – 7791
particles in, extraction/analysis – 3675
particulate materials in, determination, benzene-soluble components – 1434
powder coatings particulates in, bisphenol A in – 2885
sampling
—for MS – 2876
—hazards (occupational) assessment – 7758
solvents in, recovery, permeation membranes – 3782
sulphur dioxide in, sampling/determination – 4508
toluene diisocyanate in, determination, reaction/TLC – 2854
ventilation systems – 7759
vinyl acetate in, determination, evaluation/determination – 6890
vinyl chloride in, determination – 1435
Air Conditioners
powder coatings, application, plants – 4262
Air Pollutants
aerosols, Los Angeles, GC etc – 7055
anticorrosives, zinc phosphate effectiveness – 355

Air Pollutants *(continued)*
building materials
—acid deposition effects – 2697
—protection against – 6673P
—UK/effects – 7057
buildings (domestic)
— 3784
—complaint-free – 4620
corrosion, test chambers results – 383, 384, 385
corrosion/degradation
—laboratory tests – 8404
—weathering (natural) – 8426
detection, MS/MS, atmospheric pressure ionisation – 4505
forestry/agriculture &, UK – 589
FTIR – 9726
infrared spectroscopy, FTIR versus filter – 9696
levels, limits, regulations (UK) – 4758
mapping/presentation, workplaces – 5392
multi-component, determination, FTIR – 6934
particles, FTIR/microscopy – 6928
sampling, carbon (activated), FTIR (in situ) analysis – 4521
sampling/determination, review – 7660
smoke, corrosion & – 7550
sulphur dioxide
—corrosion & – 1057
—monitoring – 1417
volatiles (org), determination, detectors/mobile units – 7664
weathering
—laboratory tests – 8404
—weathering (natural) – 8426
Air Pollution
cleaning, solvent vapours, plants/pollution control – 6201
control
—plants registration UK – 4744, 4759
—regulations (UK), plans/EEC directives – 3922
dusts, control – 7803
formaldehyde, monitoring – 3655
monitoring, plants (chemical), control centres – 9820
nitrogen dioxide, colourants fading – 7241
organo-lead compounds, sources – 7791
ozone, troposphere/stratosphere – 9821
painting, wood – 2118
particulate materials, limit values, EEC – 6332
regulations (Swiss), chemical industry & – 7918
regulations (UK)/EEC directives, implications – 9971
statistics (UK) – 4689
sulphur dioxide
—corrosion/salts (residual) – 4312
—limit values, EEC – 6332
—oxidation, carbon black etc – 4525
UK, HM Inspectorate of Pollution – 5585
US, emissions reports by companies – 9815
volatiles (org), levels USA cities – 7051
Air Products
acquisitions by, of Valchem – 2203
Air Quality Standards Regulations 1989
provisions – 4758
Air-drying Coatings
alkyds (modified), by dicyclopentadiene – 6444
diluents (reactive), fatty acid esters (unsatd) – 8243P
driers (combination) – 3145
driers (zirconium), lead replacement – 9022
for wood, oxidative/acrylic mixed – 5010
manganese phosphate (acidic), phosphates layers formation – 7536
polyethers (modified), by fatty acids – 941
Air-drying Compositions
alkyds, mechanisms/NMR etc – 8087
diluents (reactive), polyurethanes (unsatd) – 6506P
electrocoating (cathodic)
— 5791P
—microgels & – 8204
high-solids coatings
—diluents (reactive) – 941
—organo-aluminium compounds – 2302
metallic finishes, binders/cellulose ethers – 6821P
oligoesters (unsatd), dicyclopentadienes derivatives based – 3251P
printing inks, drying on porous not machine – 3402P
water-bornes
—alkyds – 3347
—alkyds (modified) – 4191P, 5796P
—butadiene polymers (modified) – 950P
—copolymers, gel fraction/residual unsaturation – 6567P
—driers, traditional/water-emulsifiables – 52
—emulsion polymers/air-drying stabilisers – 5792P
Aircraft
adhesive tapes, temp (low/high) – 3373
adhesives, uses/problems/research – 4215
aluminium, anticorrosives, phosphates (monobasic)/carbonates – 8984P
aluminium alloys, anticorrosives, finishing/quality assurance – 9445
blasting & aircraft industry – 1729
coatings
—acid rain resistance – 6753P
—against ice – 3601P
—colour changes – 5146
—compliance systems – 1131, 9572
—defects, adhesion/cracking failure – 6804
—durability/time to repaint, prediction – 9447
—high-performance/compliance systems – 1128
—weathering (accelerated) – 9447
—weathering/soiling/cleaning – 5146
coatings (proprietary) – 1127
corrosion, atmospheric corrosivity/logistics decisions – 8423
engines, temperature-indicating paints – 4446P
insulation (acoustic), flame retardance – 5849P
painting, reasons/techniques/examples – 9348
polishes, alkoxides, chemical binding – 6622P
polyurethane coatings, photo-oxidation – 9457
Aircraft Carriers
antifoulings (self-polishing) – 8447
Airless Spraying
See spray guns & spraying
Akzo Coatings France SA
financial performance/subsidiaries – 9937
Akzo Coatings Inc
paint manufacture, plants (US), aerospace etc systems – 5568
plants (new), USA – 7853
Akzo Group
acquisitions by
—of General Paint of Mexico – 694, 3056
—of Iovite/S-R Premier – 4732
Belgium, restructuring/expansion – 4713
inks activities – 4732

Akzo NV
acquisitions by, of Reliance Universal – 7184
Alanines
polymerisation (anionic), hydrogen transfer – 2339
Albizia spp
bark, molluscicides – 2734
Albright & Wilson Ltd
acquisitions by, of Pine Chemicals – 5558
Alcohols
fluorinated, silicones modified by – 2496P
from carboxylates/triglycerides – 2859
linings &, synergism – 7547
photo-oxidation, on titanium dioxide – 1464
photolysis, enols (transient)/trapping – 9846
reaction
—with epoxy compounds – 4210
—with silica surfaces – 7750
solutions (aq), surface tension/interfacial tension – 8673
unsaturated, solvents, primers – 3986P
water in, determination – 1960
Alcro-Beckers AB
ownership, now wholly Becker Group – 677
Aldehydes
corrosion inhibitors, amines & – 5932P
determination, in air, sampling with derivatisation/GC – 1963
polymerisation (cationic) – 2400
primers, amines & – 447P
products
—ketones, sulphonamides reagents for – 4857
—with silyl enol ethers – 2487
reaction, diols synthesis – 7990
Aldols
silyl groups, from silyl enol ethers – 2487
Alexander Fergusson Ltd
acquisition, by Macpherson, plants closure – 4723
Alfort & Cronholm Group
joint ventures, divestment to Becker Group – 677
Algae
coatings against
— 423P
—microcapsules – 4369P
lipids synthesis – 39
marine, fouling, review – 1808
masonry (exterior), tropical conditions, & control – 3526
polysaccharides from, polyvinyl alcohol (acetoaceylated) & – 3332P
promotion, coatings, nutrients/materials from – 9522P
stone, treatment against – 2735P
Algicides
testing
— 412
—against stonework isolates – 1097
—board (proprietary) substrates – 1096
thiophene thiocyanates – 1817P
Alginates
rheology – 1898
Alkali Blues
treated, soft textured/high strength – 3965P
Alkali Resistance
abrasion-resistant coatings, silica blends/silanes condensates – 9622P
adhesives (hot-melt) – 5831P
pigments (orange), mining wastes – 8991P
ultraviolet-curables, optical fibres/ageing – 7070
waterproof coatings, siloxanes – 249P
Alkalinity
See also basicity
Alkanes
oxidation, catalysts – 7991
Alkanolamines
chelates, with zirconium – 4875P
products, with trisphenols – 4929P
strippers, for resists – 345P
substituted, anti-misting coatings – 8497P
Alkenes
oxidation, catalysts, cobalt compounds – 45
synthesis, from alcohols – 48
Alkoxides
coatings
—hydroxylics/anhydrides & – 940P
—polyvinyl alcohol/polysaccharides & – 9492P
hydrolysed, partially, transparent coatings – 5248P
pigments coated by oxides & – 5626P
polishes, chemical binding – 6622P
polymerisation (anionic) presence – 4054
polymers from – 3817
primers, before adhesives – 4417
products
—particle size, reflection control – 9582P
—with polymers, moisture-curables – 2704P
Alkyd Resins
See also epoxy/alkyd resins
adsorption, on titanium dioxide, solvents/MW etc effects – 2017
air-drying coatings, diluents (reactive) – 8243P
air-drying compsns, mechanisms/NMR etc – 8087
anticorrosives
— 1775
—performance – 1454
anticorrosives (high-solids), sulphonates & – 2677
autoxidation, volatiles – 786
blends containing, GC & acid/base interactions – 2923
chlorinated, flame-retardant coatings – 435
coatings
—adhesion – 7642
—application – 8370P
—barrels from wood – 1098
—compatibility with sealants – 4245
—defects/spatial distribution – 8409
—drying time reduction, NADs – 9213P
—for wood, organo-tin groups etc & – 9524P
—for wood, tropical conditions – 2652
—isoprene production residues – 7802
—NMR (carbon-13), components/cured systems – 2873
—stability (storage) – 127P
—urethane prepolymers & – 8383
—water uptake/diffusion – 6965
coatings (proprietary) – 3565
compatibility, with amino resins – 2702P
cross-linking – 4013
curing
—FTIR (photoacoustic) monitoring – 4520
—solvents involvement – 4520
diluents (reactive) for, polyurethanes (unsatd) – 6506P
emulsions
—alkyds/maleinised oils products – 4191P
—factors/HLB/surfactants – 220
—monomers/preformed epoxies – 9052
fast-drying coatings, formaldehyde resins & – 4152P

Alkyd Resins *(continued)*
from castor oil/rosin, synthesis/costs/coatings – 120
from glycidyl butylbenzoates etc – 2702P
from oils/glycols then polyols etc – 127P
from polyols from anhydrides/polyols/glycidyl – 128P
from sunflower oil, formulation/uses etc – 4060
grafting, coatings without dispersants – 3249P
high-solids coatings – 208
—formulation – 4995
industrial finishes (water-borne) – 5008
liquid crystals groups, coatings/NADs/low volatiles – 8190
market (US), & forecasts – 667
modification, by methylstyrene – 7158
modified
—anticorrosives – 399P
—by dicyclopentadiene – 154P
—by dicyclopentadiene, synthesis/coatings – 6444
—by metal ions, high-solids coatings – 2533P
—diazoquinones (chemically-bound) – 7117P
—dispersibility in – 3738
NMR (carbon-13) – 1213
odours, treatment – 3340
phthalic anhydride in, determination – 8883, 8889
pigments/maleates &, dispersibility – 3269P
primers, curing parameters/performance – 6740
printing inks, phenolics &, gelation/viscosity/solids content/tack etc – 5272
properties/structure/application – 7314
proprietary – 8045
silicone-modified, coatings, adhesion (wet) – 545
solvent blends, rheology, solutions/paints/additives/storage – 2839
solventless coatings, acrylics/amine salts/polymers etc & – 8238P
standards – 8902
statistics – 660
statistics (German, East) – 4697
styrenated, styrene/methylstyrene comparison, & initiators used – 6454
synthesis
—continuous processes, monitoring/control – 9336P
—nitrogen blanketing etc – 7453
—plants (Japanese) – 5536
—plants (Mexican) – 3066
thick coatings, microgels & – 7621P
unsaponifiable matter – 8892
water-bornes
—cosolvents, glycol ethers/alcohols – 9010
—for wood – 7390P
—paint manufacture – 8226P
—structure etc/comparison solvent-bornes – 7384
water-soluble
—alkyds/fatty acids (modified) products – 5796P
—trimellitic anhydride content – 3347
weathering, surfaces changes, ESCA/electron microscopy etc – 2694
weathering (accelerated), sodium chloride immersion – 7535
Alkyd/Amino Resins
analysis – 1208
coatings, developments required/new resins – 4053
high-solids coatings – 7377
NMR (carbon-13, solid-state) – 519
Alkyd/Melamine Resins
coatings
—adhesion to, moisture-curables – 8528P
—ceramics powders & – 9502P
coatings (intermediate), thick coatings & – 4420P
repair painting, catalysts & – 9573
water-bornes, pigments electrophoresis – 2911
weathering, natural/accelerated, chemistry – 8425
Alkyd/Urea Resins
emissions, formaldehyde, factors – 2762
formaldehyde content/emissions, compounds against – 6523P
Alkyd/Urethanes
high-solids coatings, allyl groups/isocyanate groups – 9202
water-bornes, curing, faster – 1658
Alkylene Oxides
synthesis, epoxidation/catalysts – 3141P
Alkynes
See also acetylene(s)
Allenes
complexes, photoinitiators, triazines/heterocyclics & – 5464P
hydroxylated, glycidyl ethers, synthesis/polymers – 3237
polymers (reactive), phenoxy groups – 7327P
thiocyanates, biocides – 2739P
Allergies
– 574
anhydrides – 2071
azo systems/precursors, review – 2064
cyclohexanone resins – 2059
diagnosis, antibodies detection insufficient – 2952
dyes – 2049
epidemiology, chemical industry – 5351
isothiazolinones, mixtures (proprietary) – 2945
phthalic anhydride exposure, sensitisation – 9759
respiratory systems, methyltetrahydrophthalic anhydrides – 7033
rosin/resin acids/derivatives – 7788
sensitisation, risks assessment – 9790
Allophanate Groups
determination, biuret groups & – 4490
isocyanates
— 1618P
—synthesis by modification – 6517P
polyisocyanates, synthesis/catalysts/stability – 1616P
Allure Industries
acquisitions by, of Ticor Technology – 1369
Allyl Alcohol
alkoxylated, derivatives, maleic anhydride copolymers – 8112P
plasma polymerisation, substrates functionalisation – 1731
Allyl Alcohol Copolymers
modified, by drying oils/maleinisation – 5791P
products, with amino resins/epoxies – 6518P
synthesis, hydrogen peroxide/weak acids – 150P
Allyl Compounds
coatings
—polymerisables/driers etc &, pot-life extension – 6538P
—polymerisables/driers/initiators/fugitive acids – 7376P
—polymerisables/initiators/acetylacetonates etc – 8239P
driers &, inhibition (reversible) – 2311P
electron beam-curables, printed circuit boards repair – 3021P

Allyl Compounds *(continued)*
electropolymerisation, on zinc/galvanised – 4883
polyfunctional, silyl groups, cyclopolymerisation – 191
reaction, with chlorohydrosilanes – 8157
Allyl Ethers
anilino groups, products with Si-H – 4138P
fluorinated, copolymers with fluorocarbons – 4952P
heat-curables, cyanates/maleimides & – 1715P
of glycerol derivatives, surfactants (unsatd) – 2310P
of salicylic acid, curing accelerators – 1595P
products, with diisocyanates then epoxy/acrylates – 5169P
synthesis – 3241
vinyl acetate copolymers, hydrolysis – 121P
Allyl Groups
acrylamide (substituted), cyclopolymerisation – 889
acrylamide polymers (substituted), polymerisation – 4955
aminocaprolactams – 51P
carbonates
—alkyd/urethanes, isocyanate groups – 9202
—products with organo-tins – 918
cyanoacrylates, synthesis/properties/adhesives – 265
isocyanurates, photo-crosslinking, carboxyl-reactive groups & – 1293
maleimides – 908P
polyethers, acrylates &, mechanical analysis (dynamic) – 8589
reaction
—with bismaleimides, cross-linking higher temp – 2849
—with siloxanes (Si-H), isomerisation & – 4127
silanes, adducts with ketones – 4858
siloxanes (unsatd) – 4131P
thioethers, chain transfer agents – 1532
Allylamines
antioxidants, coatings, pipes/loss control – 7619P
plasma polymerisation, substrates functionalisation – 1731
polymers, products unsatd epoxy – 5758P
Almanacs
Whitaker's – 1452
Alpha-Rays
resistance to, epoxies/niobium compsns – 8315P
shielding against, polyamide-imides etc – 9297P
Alternating Copolymerisation
acrylic acid/vinyl acetate, Lewis acids – 8064
maleic anhydride/vinyl ethyl ether – 846
photopolymerisation, cyclohexene/maleic anhydride, complexes – 9836
polymerisation (anionic), hydrogen transfer – 2339
review – 3198
tetracyclooctanes/acrylonitrile – 2443
Alternating Copolymers
isopentenyl compounds – 6472P
maleimides, resists – 8795P
Aluminates
coatings (inorg), oxides/silicates/phosphates & – 8481
Aluminium
See also tubes, panels, window-frames, wires
adhesion (wet) to, factors/improvement/corrosion resistance – 2657
adhesion promoters for
— 8591
—titanium compounds – 6887
adhesion to
— 2825, 6721
—epoxies, improvement – 2409
—ethylene copolymers, treatment – 5874
—ethylene polymers, functional groups – 6037
—graft copolymers (carboxylated) – 3632
—silanes (unsatd) copolymers – 6043
adhesives (acrylic, reactive), bond strength – 9638
adhesives (epoxy), pretreatment/RH/adhesion/durability – 2822
anodised
—abrasion resistance testing – 1443
—coloured, lightfastness – 1444
—corrosion resistance testing methods – 1442
—simulation, coatings on aluminium – 1143P
—simulation, metallic finishes – 4426P
anticorrosives
—bitumens/polypropylene – 9500P
—oxides (mixed) particles – 5168P
—phosphates (monobasic)/carbonates – 8984P
—staining resistance – 9483P
—without primers – 9468
cans, coatings, polyesters (unsatd) – 7626P
caps, for bottles, primers before inks – 2802P
chelates
—epoxies/siloxanes/borates & – 1806P
—powder coatings, polyesters etc & – 5800P
chromate coatings
—electrochemical measurements – 6710
—electron microscopy (scanning) – 1997
chromating, standards – 725
cleaning, compsns – 6647
coated
—pipes coatings – 9496P
—weathering (natural) – 1773
coatings
—acrylamide polymers/hydrophilicity – 1668P
—hydrophilicity, oxides (activated) – 4421P
—hydrophilicity, silicates, post-treatment – 9611P
—polyesters (unsatd)/amino resins – 7626P
colouration, saffron/stannous, electrolytic – 5845
conversion coatings
— 1040, 5885
—storage/weathering before painting – 1284
corrosion inhibitors, phosphoric acids/amines systems – 2712P
degreasing
—aq compsns, phosphates-free – 2644P
—before conversion, acid/alkali – 5105
electrocoating
—multilayered coatings, polymers/waxes – 959P
—weathering (accelerated) – 2667
electrocoating (cathodic), polyimides (modified) – 5780
evaporators, repair, adhesives (epoxy) – 9259P
extruded
—coated, markets (UK/European) – 6277
—painting v anodised – 6277
—powder coatings, application, plants – 4259
flakes
—heat-curables, mica/acrylics/fluoropolymers & – 1143P
—metallic effect, translucent compsns – 6840P
foamed, board, decorative coatings, first cut patterns – 5227P
heat exchangers, treatment, hydrophilicity – 9613P

Aluminium *(continued)*
heat exchangers fins
—anticorrosives/hydrophilicity – 9492P
—coatings, acrylics/surfactants – 6013P
—coatings, hydrophilicity/roughness – 5176P
—coatings/hydrophilicity – 6833P
—water-bornes – 963P, 1081P, 1672P, 5178P
intumescent coatings – 5970P
painting (contract), plants (Canadian) – 8344
pastes, businesses transfer – 673
phosphating, zinc phosphate/nickel ions, conditioners – 4284P
plated surfaces, chromating, penetrants – 4288P
powder coatings
— 1679
—use/standards – 7408
powders
—explosions, explosive potential – 2112
—metallic finishes, granules/flakes – 1857P
—metallic finishes, mica (coated) & – 2786P
—weldable coatings – 5934P
—zinc dust paints, stainless steel powders & – 2680
pretreatment
—cleaning (acidic)/chromium(III/VI) – 9370P
—methods, powder coatings & – 7490
—methods/adhesives over, comparison – 5863
—reactive surfaces under liquids, then coatings – 6664P
primers
—acrylics (silyl)/polyolefins (modified)/silica etc – 6835P
—alkoxides hydrolysis – 4417
—forming/food packaging – 6756P
radiation-curables, combination thermal – 5406
reduction by, titanium dioxide manufacture – 7249P
sprayed, corrosion control, plants (chemical) – 8417
stoving finishes, for polyolefins &, laminates – 8500P
transparent coatings for
— 4331P
—siloxanes etc – 462P
wash primers, vanadium compounds – 5172P
water-bornes
—acrylamide copolymers, hydrophilicity – 962P
—silanes/silica etc – 955P
wheels
—coatings, rheology/edges etc – 8529P
—coatings, silica/silanes (hydrolysed)/polymers – 9483P

Aluminium Alkoxides
adhesion promoters, for titanium alloys – 7636
coatings, siloxanes (ladder) & – 6526P
products, with polymers, moisture-curables – 2704P

Aluminium Alloys
aircraft
—anticorrosives, finishing/quality assurance – 9445
—coatings, defects – 6804
anodised
—abrasion resistance testing – 1443
—coloured, lightfastness – 1444
—corrosion resistance testing – 1442
anticorrosives, silanes (hydrolysed)/polymers/silica – 9481P
coatings
—epoxies – 7604
—on adhesives on – 6751P
cooling systems, autophoretic coatings – 9435
corrosion, localised – 4311
pretreatment, cleaning (acidic)/chromium(III/VI) – 9370P
pretreatment/primers/coatings, testing – 6711
wheels, coatings, silica/silanes condensates/glycols etc – 8543P

Aluminium Chloride
complexes (charge transfer), with polymers etc, reactions – 832

Aluminium Compounds
catalysts, polymerisation (metathesis), rate modifiers – 4902P
coatings
—for walls, stain bleeding prevention – 476P
—on curing agents powders – 3271P
gellants, solvents/resins effects – 3625
ion-exchange materials – 776P
magnesium/hydroxide/carboxylate type – 9042P
odours control by – 1512P
photocurables, epoxies/silanes (nitrobenzyl) & – 7114P
polymeric, sizes – 1116P
polymers, AlO chains, acyloxy/ligands pendent – 4122
porphyrins, initiators – 2340
pretreatment, with silica & – 325P, 1738P
solubilisaton by, corrosion inhibitors – 3486P
stabilisers – 7325P
transparent coatings, siloxanes etc & – 462P

Aluminium Dihydrogen Phosphate
anticorrosives, curing mechanisms/interactions/protection – 4310

Aluminium Hydroxide
anticorrosives, siloxanes & – 6745P
coated, by polymers, acrylics matrices with – 4832P
dispersions, dispersants/colloids (protective, cationised) – 8989P
fire retardants, borates & – 8483P
powder coatings, charging (triboelectric) – 6577P

Aluminium Oxide
activated, coatings, hydrophilicity – 4421P
adhesives (epoxy) for – 4213
adsorption on
—curing agents – 7590P
—phthalic acids/orientation – 9737
anticorrosives, siloxanes & – 6745P
coagulants, overspray washes – 4626
coatings
—on iron oxide – 768
—resins/solvent blends, rheology etc – 8529P
—silanes etc & – 7614P
coatings of, on pigments (org) – 6384P
heat-resistant coatings, siloxanes/coupling agents & – 1149P
hydrated
—titanium dioxide replacement, effects – 2265
—treated, hydrophobicity – 8196P
manufacture, wastes from, water-bornes – 9224P
oxides (mixed)
—Al/Mg/Zn, anticorrosives – 5168P
—anticorrosives – 3974P
particle size, apparent, distribution, shape & – 5310
particles, anti-slip coatings/transparency – 9596P

Aluminium Oxide *(continued)*
powder coatings
— 8237P
—charging (triboelectric) – 6577P
primers, before metal coatings – 1141P
sols
—anticorrosives – 9503P
—coatings, roughness/hydrophilicity – 5176P
spherical, electron beam-curables, abrasion resistance – 3843P
surfaces, reactions epoxidised polybutadiene – 4048
Aluminium Phosphate
adhesives, epoxies/zinc compounds & – 4223P, 6601P
anticorrosives, binders (inorg) & – 9503P
from aluminium phosphate/aluminium compounds firing – 4848P
heat-resistant coatings – 9635P
intumescent coatings – 1108
zinc dust paints – 5167P
zinc phosphate modified by – 749
Aluminium Pigments
adhesives (epoxy), moisture in uncured – 3623
coatings
—nitrocellulose etc & – 5204P
—polyethylene (chlorosulphonated) etc & – 7562P
corrosion resistance, electrochemical measurements – 5923
flake
—coated, by iron oxide – 2262, 2264
—coated, microscopically flat surfaces – 8995P
—coated, nacreous pigments/optical properties – 8568
—coatings, mica &, aluminium simulation – 4426P
—orientation, application/thixotropy index – 3579P
—pastes – 8881
—sampling/testing – 8881
—spraying, orientation, impact/drying – 2819
high-build coatings, epoxies & – 3493P
metallic finishes, requirements/use – 3578
water-bornes, reaction inhibition, phosphites – 6390P
Aluminium Silicate
anticorrosives, tapes (steel), edges – 1076P
calcined, standards – 8949
hydrated
—anticorrosives (water-borne) – 1091P
—heat-resistant coatings – 9635P
—natural, standards – 3087
printing inks – 7960
Aluminium Sulphate
flame retardants – 437P
Aluminium Tripolyphosphate
anticorrosive pigments
—products lead/zinc – 9231P
—products lead/zinc, non-toxic – 8994P
modified
—anticorrosive pigments, properties/use – 6713
—by zinc/silicates, coil coatings – 3108
Aluminophosphates
water-bornes – 3356P, 9224P
Aluminosilicates
extenders (proprietary), properties – 5
photocurables, epoxy esters (unsatd) & – 2150P
stoving finishes – 1152P
Alusuisse Group
joint ventures, maleic anhydride – 5548
American Cyanamid Co
joint ventures, cross-linking agents – 3892
American Glass Research Inc
joint ventures, with Ensign Bickford Optics – 5538
Amides
coatings, for wood, film formers/organo-tins & – 9524P
diluents (reactive)
— 6544P
—surface activity/high-solids coatings – 3346P
glycidyl groups, adhesives (epoxy) – 5824P
halogenated, N-halogen groups, coatings – 2779P
hydrolysis – 8124
hydroxylated, powder coatings, polyesters & – 5802P
paint strippers, amines & – 342P
polyfunctional, polyether-amines/carboxylics etc products – 7332P
radiation-curables, oxygen inhibition reduction – 9886P
ultraviolet-curables, carboxylic acids (unsatd) etc & – 6227P
unsaturated
—adhesion promoters, complexing agent groups – 3154P
—alkenoylenamides, synthesis/uses – 8022P
—copolymers with fluorocarbons (unsatd) – 1619P
Amidines
bicyclic, products with isocyanates – 982P
cyclic, catalysts, polyurethane compsns – 5073P
Amine-Formaldehyde Resins
See also phenol/amine-formaldehyde resins & phenol/amino resins
Amine-imides
curing agents, for epoxies, thermal stability – 849
Amines
See also epoxy/amine adducts
acid/base equilibria, micelles & solvents/water – 6128
adhesion promoters, for plastics/adhesives – 5128P
alkoxylated, water-bornes, polymers/alkaline compounds & – 1705P
anaerobic compsns, hydroperoxides/amines/acrylates & – 9088
antistatic additives – 3588P
blocked
—adhesives (epoxy), silicones (modified) & – 5057P
—moisture-curables, heterocyclics groups – 9203P
corrosion inhibitors – 3486P, 8430P
curing agents
—for epoxies, elasticity & – 3629
—for epoxies, functionality/stoichiometric imbalance – 4904
—for epoxies, GPC/MWD of epoxies – 1231
—for epoxies, reactions – 841
curing agents (latent), isocyanates/phenols & – 3248P
curing by, catalysts – 4106P
determination, in air, sampling/GC – 9652
exposure limits, prediction – 9813
GC/MS
—acylation (on-column) – 521
—curve resolution – 1233
glycidyl compounds, curing kinetics, branching theory – 2410
hindered
—curing agents, accelerators for – 1577P
—glycidyl ethers, NMR – 7279

Amines *(continued)*
—peroxides groups, initiators/stabilisers (bound) – 794
—stabilisers (light) – 1063, 1121P
—stabilisers (light), absorbers &, formulation – 2520
—stabilisers (light), chemically-bound – 8030P
—stabilisers (light), developments – 7278
—stabilisers (light), losses – 8013
—stabilisers (light), mechanisms – 1506, 6411
—stabilisers (light), mechanisms/monitoring etc – 1507
—stabilisers (light), N-hydroxyl (etherified) – 9033P
—stabilisers (light), N-hydroxyl, coatings – 9032P
—stabilisers (light), stoving/weathering losses – 6408
—stabilisers against ozone/photolysis products – 55
—stabilisers, silanes groups, on pigments etc – 8983P
HPLC, derivatisation, reagents (polymer-bound) – 1206
hydroxylated, corrosion inhibitors – 4335P
Michael adducts – 3304P
oxygen scavengers, photopolymerisation – 1286
paint strippers, amides & – 342P
photoinitiators
— 9891P
—photosensitisers & – 6218P, 6219P
photopolymerisation presence, deoxybenzoins & – 2991
photosensitivity, coatings, polyamic acids/polyethers & – 4671P
polyfunctional, sampling/determination – 7674
polymerisation presence, & maleic – 107
powder coatings, polyvinyl butyral &, elasticity – 1677
printing inks (lithographic) – 1708P
products
—with acrylics, photocurables – 5459P
—with hydroxybenzoics, curing accelerators – 8116P
reaction
—with acrylates, kinetics – 3138
—with epoxies – 4210
—with epoxies, kinetics/diffusion, modelling – 850
—with epoxies, reactivities – 2390
—with polyesters, aminolysis, presence water – 848
recording materials (magnetic) – 1713P
spectrometry (ion mobility) – 6927
strippers, for photoresists – 9856P
tertiary, health hazards – 548
toxicity, DNA repair tests – 2099
toxicology – 5366
unsaturated, copolymerisation presence polymers – 232P
vapour curing presence – 898P
Aminimides
curing agents
—for epoxies – 106
—for epoxies, fluorescence probes – 8081
groups
—pendent, heat-curables – 9238P
—polymers, fluoroalkyl/amino etc groups & – 9501P
Amino Acids
acrylics (fluorinated) & – 5996P
conductive coatings, copper & – 9616P
derivatives
—fluorinated, cyano, insects repellents – 1813P
—printing plates manufacture – 3020P
products, with melamine resins – 952P
substituted, coatings, polymers (silicon-modified) & – 5770P
Amino Groups
acrylics/aminoalcohols products – 6471P
azo compounds, spectra effects – 1201
blocking, with aldehydes – 44
compounds, products with carbonate groups compounds – 905P
divinylbenzene polymers (modified) – 5691P
fluorenes (unsatd) – 4953
naphthalene (unsatd) – 4953
pendent, ketimines – 3991P
polymers
—from carbonates/amino group systems – 905P
—from oxime acrylates mers – 2462
—modification with silanes – 1642P
siloxanes, telechelic, synthesis – 5761
terminal, oligomers, & products therefrom – 903P
Amino Resins
See also entries starting acrylic/ , alkyd/ & phenol/
adhesives, for veneers etc – 9273P
coatings
—for plastics, polyesters & – 1118P
—on wear layers – 1138P
cross-linking agents
—catalysts (latent) for – 6468P
—catalysts for – 142P
curing agents
—for epoxies, coatings – 3600P
—mechanisms/catalysts – 4053
curing by, N excess at surfaces – 8628
derivatives, N-carboxyanhydrides, polymerisation (anionic) – 2451
formaldehyde (free), determination – 4956
from cycloalkanes compounds, adhesives – 9272P
functional groups
— 6494
—distribution/properties/selection – 8128
heat-curables, nitrogen determination – 8625
low imino, coatings – 9198P
products, with epoxies, water-bornes – 2544
properties/industrial finishes/uses – 4956
solvents tolerance – 8887
synthesis, companies activities – 3892
zwitterions groups – 286P
Aminoalcohols
aminoalkylaminopropanol derivatives – 50P
dispersants – 1508
Aminobenzenesulphonic Acids
salts, products with polyepichlorohydrin – 9179P
Aminocarboxylic Acids
– 2698P
acrylics (fluorinated) & – 5996P
antifungal activity – 7569
products, with acrylamide polymers – 2480P
salts, surfactants, coatings – 1162P
Aminodiphenyls
See also benzidine entries
Aminoisobutyric Acids
antifungal activity – 7569
Aminophenols
chlorinated, synthesis, blood erythrocytes haemoglobin patterns – 9795

Aminophenols *(continued)*
tris(dimethylaminomethyl)phenols, curing accelerators – 4946P
Aminoplasts
See amino resins
Aminosilanes
blocked, coatings, epoxies/organo-silicons & – 947P
curing agents, for epoxies – 3500P
cyclic, amino/oxygen/alkylene in ring – 3999P
diamines, products with maleic anhydride – 4977P
polymerisation (group transfer) presence, initiators etc & – 824P
primers, epoxy silanes & – 6023P
products
—with acrylates/isocyanates – 929P
—with anhydrides, coatings – 5777P
—with anhydrides, transparent coatings – 6002P
—with carbonyl, coatings – 2803P
—with epoxy silanes, moisture-curables – 4999P
—with isocyanates – 8535P
—with polyisocyanates – 8316P
scavengers, polymerisation (group transfer) presence – 4892P
unsaturated, adhesion promoters – 637P
water-bornes, polyvinyl acetate etc & – 8288P
Ammonia
determination, in air, flow injection analysis – 1225
Ammonium Compounds
aerosols, determination, flow injection analysis – 1225
corrosion inhibitors (volatile) – 9436
curing accelerators, acetals (cyclic) & – 855P
quaternary
—alkoxylated, stabilisers for epoxy/polyamides – 806P
—antifoulings (water-borne) – 5953P
—antifoulings, chlorophenols & – 5954P
—antimicrobial activity, polymers (acidic) & – 3534P
—antimicrobial activity, structure & – 3515
—biocides – 3520
—blends, corrosion inhibitors – 346
—catalysts, polymerisation (group transfer) – 4046
—diaminediacetic acid esters, biocides – 9520
—unsatd, copolymers, paper coatings – 5981P
—unsatd, copolymers, photocurables – 636P
—unsatd, piperazine derivatives – 906P
—unsatd, polymers (branched), water-soluble – 1509P
—wood preservatives, pyridine oxide & – 5183P
Ammonium Groups
organo-silicon compounds, resists treatment with – 1329P
polymers, photosensitisers groups & – 9840
quaternary
—carboxymethylcellulose, antifoulings – 3532P
—pendent, acrylics, block copolymers – 8658
—pendent, polyvinyl alcohol (modified) – 6467P
—polyesters with main chain – 5751
Ammonium Hydroxide
polymerisation presence – 6590P
products, with ethanolamine, activators, paint strippers – 2650P
Ammonium Molybdate
conversion coatings, for steel (zinc-coated) – 5925
Ammonium Nitrate
synthesis, plants, corrosion/control – 5135
Ammonium Perfluorononanoate
toxicity, inhalation – 9780
Ammonium Phosphate
fire retardants, wood/plywood comparison – 9540
paper coatings, conductivity (electrical) – 4439P
Ammonium Polyacrylate
See 'polyacrylate, ammonium'
Ammonium Polyphosphate
intumescent coatings, viscosity/gel time etc effects – 5964
Ammonium Silicates
coatings, for aluminium, post-treatment – 9611P
water-bornes – 7383
Ammonium Sulphides
cross-linking agents, electropolymerisation & – 375
Ammonium Thiocyanate
products, with polyamines – 4440P
Ammonium Zirconium Carbonate
chemistry, & insolubilisation by – 4399
cross-linking agents, properties & – 8201
Anaerobic Compositions
See also adhesives & sealants
acrylates
—hydroperoxides/sulphimides/amines, interactions – 9088
—of methylbutanediols – 9017P
Analysis
See also materials/techniques, e.g. formaldehyde, ultraviolet spectroscopy etc, & metals (trace) & trace elements
accuracy, absolute determination – 6086
adhesives
—modern characterisation methods – 3660
—techniques/review – 8627
alkyd/amino resins – 1208
autoxidation/driers studies – 2856
coatings/raw materials/surfaces, review – 7646
enzymes (immobilised) in – 3689
equipment, proprietary, exhibitions (US) – 7648
expert systems – 4487, 9667
paint materials, accuracy improvement – 7681
paints, methods, for formulations/films – 1972
polyesters (silicone-modified) – 1208
polymers
—books – 8957
—methods/details, books – 10003
printing inks, history/role – 6096
statistics
—correlation coefficients/linearity – 1988
—methods – 1975
trace
— 5599
—chlorides, continuous – 6088
—cobalt/chromium/hydrogen peroxide – 2862
—hydrocarbons (halogenated), iodine/bromine types – 1219
—lead in water – 1215
—lobsters, MS – 1986
—metals (heavy) determination – 1212
—metals (heavy), laboratories comparison – 1936
—MS (secondary ion), microdroplets – 1980
—pollutants, MS/MS – 4505
—siloxanes – 6911
—titanium dioxide pigments/paints – 2881
—titanium, voltammetry – 2869
Anchor Chemical Co
acquisitions by, of Trimont Chemicals – 5533

Anderson Development
acquisition, by Mitsui Toatsu Chemicals – 3071
Anglo European Minerals Ltd
talc/marble sources – 6292
Anhydrides
coatings
—polymers (hydroxylic) &, curing progress/properties – 9758
—polymers reactive with – 5246P
coatings (two-component), basecoat/clear – 9623P
curing agents, for epoxies, bismaleimides incorporation – 9244
groups
—main chain, curing agents, for epoxies – 6578P
—polymers with, hydroxylics & – 4994P
hazards – 7042
immune system
— 7042
—histamine release assays etc – 2071
moisture-curables, amines (blocked) & – 9203P
products
—with aminosilanes, coatings – 5777P
—with diisocyanates – 6516P
—with vinyl alcohol copolymers – 8079
toxicology, review – 7042
unsaturated
—copolymers, coatings – 7379P
—copolymers, esterification unsatd alcohols – 7331P
—copolymers, heat-curables – 8544P
—cyclopolymerisation, epoxy compsns – 876P
—hexene polymers modified by – 9113P
—polymerisation, low residual monomers – 1580P
Anilides
groups, photoresists – 7103P
Aniline
derivatives, unsatd, products with maleimides – 907P
detection/determination, in air – 4588
electropolymerisation – 4006
liquid chromatography – 2880
polymerisation (oxidative), in oxides – 8047
reaction, with diglycidylanilines – 9082
substituted
—polymers, conductivity (electrical) – 2455
—products with diglycidylanilines – 9081
toxicity/hazards/regulations (French) etc – 4588
Aniline-Formaldehyde Condensates
diazonium groups, photosensitivity – 5468P
modified, maleimides, electron beam-curables – 2173P
polyurethanes, from isocyanates from – 6770P
Aniline-Formaldehyde Resins
substituted
—maleimides – 4960P
—polyimides from tetra-acids & – 4960P
Animals
trapping, adhesives/tack – 2579P
Anion Exchange
See also ion exchange & ion-exchange entries
Anionic Polymerisation
acrylates, alkoxides effects – 4054
books – 3092
continuous processes, styrene, laboratory/industrial – 4032
copolymerisation, review – 2373
grafting, on block copolymers – 4895
initiators
—phenylethylpotassium – 2324
—silyl groups, polymers for high-solids – 2531P, 2532P
—telomers (living) – 4165P, 4166P
initiators/initiation, types/chemistry, review – 2334
kinetics, chain length/adjacent dyad stereochemistry – 4099
kinetics/monitoring, techniques – 2914
kinetics/MWD/thermodynamics, review – 2346
lactams, polyamides synthesis – 8125
maleimides – 2450
methyl methacrylate
—ammonium/silanes – 4036
—macromonomers synthesis – 4058
polymerisation (cationic), simultaneous/separate monomers – 4101
polymerisation (ring-opening)
—copolymerisation – 2514
—epoxy compounds/episulphides – 2383
—lactams, review – 2461
—lactones, kinetics/review – 2394
—oxazolidinediones – 2451
—review – 2362
—stereospecificity, review – 2411
reversible – 2346
review – 3189
siloxanes (cyclic)
— 3312
—Lewis acids direct – 4973
siloxanes (unsatd), synthesis – 914
stereochemistry/configurations, review – 2328
systems with hydrogen transfer, review – 2339
termination/chain end functionalisation, review – 2335
trifluoromethylstyrenes – 886P
Antennae
coatings, fluoropolymers – 8505
Anthemis spp
oils (essential), analysis – 6049
Anthracene
groups
—acrylics, photochemistry – 3801
—adducts tetrahydroanthracenes (ether-bridged) – 3289
sulphonates, nitrobenzyl groups, photoresists – 8801P
Anthranilic Acid
quinazoloquinolines/bisazomethines/pigments from – 752
Anthranthrones
photoconductivity, charge generation – 5610
Anthraquinone
derivatives, photopolymerisation presence – 6213
substituted
— 7089P
—aralkyl – 7086P
—epoxies etc & – 7086P, 7087P
—hydrazides groups – 7087P
—photocurables – 7088P
—photocurables, epoxies & – 7089P
Anthraquinone Dyes
dermatitis (contact) – 552
lightfastness, fading accelerated by polymers – 491
manufacture/dichroism/solubility liquid crystals – 7963
thiophenes etc groups – 771P
Anthraquinone Pigments
dianthraquinone, by desulphonation/sulphates hydrolysis – 4824P

Anthraquinone Pigments *(continued)*
pigment compsns, unsulphonated/sulphonated blends – 17P
thiophenes etc groups – 771P
Anti-foaming Agents
emulsifiers, polyethers – 807P
organo-silicons – 7274
particles, hydrophobicity, theory/experiments – 3993
polydienes (modified), siloxanes – 4877P
siloxanes/polymers (water-soluble) – 1676P
slurries, talc & – 1120P
Anti-friction Coatings
phosphate coatings – 9373P
Anti-misting Coatings
acrylics, amino resin precursors & – 2756P
block copolymers/water-absorbing polymers – 7620P
cellulose ethers/oxides – 468P
for films (polymer), alkanolamines – 8497P
hydroxyethyl methacrylate/methacrylic acid copolymers – 1137
photocurables, graft copolymers/acrylates etc – 1312P
polyurethanes (sulphonated)/siloxanes – 475P
radiation-curables, polyether acrylates/melamine products – 6220P
Anti-settling Agents
aluminium magnesium compounds – 9042P
Anti-slip Coatings
See also slip resistance
coatings (inorg) as, porosity – 477P
swimming pools, polybutadiene/isocyanates etc – 466P
transparency
—aluminium oxide particles – 9596P
—polymers/beads, aggregates over – 9595P
Anti-stick Coatings
See non-stick coatings
Antibacterial Compounds
chemically-bound, stryene polymers – 5957P
Antibodies
See also immune system
Anticorrosive Coatings
– 2684
abrasion resistance
—ceramics spheres/glass flakes separate – 1796P
—epoxies & ceramics particles – 4338P
acid resistance, phenolics, water effects – 1053
acrylamide polymers (substituted), heterocyclics & – 2698P
adhesion
—polysulphides/oxides, harsh conditions & – 3498P
—pretreatment, copper oxide/phosphorus compounds – 5892P
alkyd/melamines, ceramics powders & – 9502P
alkyds (modified) – 399P
asphalts/petroleum sulphonates/fillers etc – 4346P
automobiles, blind areas/steam etc cleaning – 4339P
barrels, hoops protection – 1098
blistering, chloride ions, cations effects/mechanisms – 377
block copolymers/tackifiers – 5936P
bridges
— 3439
—Japan islands links – 1853
—polyurethanes – 1051
cables (armoured) – 9411
carboxylic acids (hydroxylated) salts, fused rings – 4340P
chromium (hexavalent), polymers/silyl groups & silica products – 1792P
chromium compounds, silica/silanes/polymers products & – 1744P
coal mining/power plants/briquetting etc – 1774
coal-based materials/asbestos fibres – 4316
coatings on metals (sprayed) on particles/resins – 8433P
corrosion (filiform), testing, salts stimulation – 2725
corrosion inhibitors (soluble/solubilised non-hazardous) – 3486P
corrosion inhibitors (volatile) – 6755P
coupling agents, heavy metals avoidance – 2691
defects, case histories/guidelines – 5918
development, approaches to – 6689
developments, review, antifoulings – 7583
dip coating (two-stage), same compsns/higher concentration – 1749P
electrochemical measurements
—current limiting factors – 1782
—electrochemical potential – 6717
—impedance spectroscopy – 2664
electrocoating (two layers)/coatings/powder coatings – 7506P
epoxies
—developments – 1771
—glass flakes/white tar etc – 4343P
—isocyanates &, epoxies synthesis – 2699P
—white tar/stainless steel flakes & – 4342P
epoxies (linear)/metals/polyisocyanates – 407P
epoxies (modified), by diols (carboxylated) – 8442P
epoxies (modified)/polymers (amino-functional) – 403P
epoxies/bitumen, mica – 2710P
epoxies/polysulphides – 8160
epoxies/silica (fumed), forming/electrocoating over – 8441P
epoxy/polyamides, paint systems – 6687
epoxy/polyesters, titanium phosphate & – 9472
flow control agents, role/types – 7282
fluoropolymers, carbon (activated) layers sandwiched – 2700P
fluoropolymers etc, chromium/zinc powders – 9494P
fluoropolymers over epoxies/urethanes over epoxies/chromates – 9485P
food industry – 8422
for aluminium
—aircraft/finishing/quality assurance – 9445
—heat exchangers – 5176P
—silica/silanes (hydrolysed)/polymers – 9483P
—without primers – 9468
for appliances (gas-fired), testing – 5912
for concrete (vermiculite)/steel – 4378
for stainless steel
— 1801P
—acrylics (fluorinated) – 4347P
for steel (metal-coated), epoxies/silica etc – 8540P
for steel (zinc-coated)
—phosphomolybdates – 3495P
—water-bornes on chromium hydroxide – 397P
—weldability/non-conductive powders – 9493P
formulation, data analysis/experimental design – 2668

Anticorrosive Coatings *(continued)*
glass flakes, flakes packaging/handling ease – 3123P
handbooks/directories – 3093
heat resistance
—aluminium phosphate, binders (inorg) & – 9503P
—automobiles exhaust systems – 5167P
—borosiloxanes – 5175P
—epoxies/amines – 5165P
—epoxies/minerals, emissivity – 1080P
—oxides (mixed)/phosphates – 5937P
—silicates/silica/aluminium phosphate – 9635P
high-solids compsns, alkyds/sulphonates – 2677
imidazolinium compounds – 6418P
improvement, review – 6695
ion-exchange materials (inorg) – 6758P
iron oxide (magnetic) – 7558
iron(III) in, Mossbauer/electron microscopy – 8646
manganese phosphate (acidic) – 7536
manufacturers (Australian), acquisition by UK – 7856
manufacturers (Italian) – 5537
marine environment, history – 9418
market (US) – 7851
mechanisms – 362
metals (heavy)-free, alkyds/lower org solvents – 399P
metals/plastics composites with anticorrosives between – 6742P
micro-organisms &, metabolites role – 8456
moisture-curables, epoxies/ketimines/pigments (flake) – 1786P
nuclear installations, two-stage application, long gap – 361
nuclear power stations, polyethylene (chlorinated)/acrylics – 381
offshore structures
— 4304, 9407
—procedures/materials – 9415
oxides (mixed), Al/Mg/Zn – 3974P, 5168P
paint systems, various environments, recommendations – 5915
particles (metal-coated), SG same as resins – 2705P
permeability/stresses (internal) – 6695, 6714
phosphating/duplex system, small components etc – 4300
piles (steel), thin at joint ends – 1083P
pipes
—cathodic protection & – 3475
—concrete (resin-modified) substrates – 3491P
—exteriors/interiors, polypropylene (atactic) – 3461
—fluoropolymers over epoxies – 4351P
—interiors, epoxies/application – 1144P
—interiors, steel manufacture plants – 1769
pipes etc, epoxies/hot liquid precuring – 6749P
plants, petrochemicals/refineries, types – 7541
plants (chemical)
— 5132, 5149
—developments – 8401
—types – 1775
plastisols, polyvinyl chloride/acrylics – 5074P
polymeric, review – 6714
polyurethanes
—acrylic/urethanes over, harbours/rivers etc – 1795P
—iron oxide/ethanolamine effects – 8399
—over moisture-curables – 4330P
—properties/uses – 9474
—types/uses examples/economics – 3485
polyurethanes (two-component) – 1071P
polyurethanes (two-pack), castor oil-based – 9489P
power stations, performance/maintenance schedules – 6719
primers/topcoats/pigments/application – 4323
proprietary
—marketing, UK/Europe – 6282
—zinc phosphate – 9402
pulp etc industry – 7533
pumps, vinyl ester polymers/glass flakes – 9420
radiation resistance – 5913
radiation-curable
—acrylic acid copolymers etc – 7519
—permeability (low) – 3019P
—propargyl ethers polymers – 9477
railways (Italian)
— 5158
—zinc phosphate – 1069
recording materials (magnetic) – 1017P
recording materials (optically-readable) – 5066P
scratch resistance etc, fluoropolymers particles/silica etc – 1088P
ships, propellers, cathodic protection & – 5944
ships (naval) – 1770
ships' hulls, cathodic protection & – 6685
silanes (hydrolysed)/polymers/silica – 9481P, 9482P
silica (calcium-containing) – 8992P
silicones – 8418
siloxanes
—blends/functional silanes – 396P
—Si-H/hydroxylated etc, aluminium compounds & – 6745P
siloxanes (cyclic) products – 1798P
siloxanes/zirconium compounds/silyl groups & – 8437P
statistics/forecasts (US) – 6254
sulphonates (metal)/diacids (derivatives) – 5164P
tanks, fluoropolymers – 2707P
tanks (petrol), metals powders/epoxies, & topcoats – 8435P
tapes (steel), coiled edges – 1076P
temp (high), inorg systems – 9441
thermoplastics, application/properties/uses – 5152
thermosetting
—automobiles – 5170P
—cumyl isocyanates (unsatd) copolymers – 1804P
—powders/fibres, & silica/mica – 1077P
thick coatings, polyethylene (chlorinated)/acrylics – 1762
titanates (fluorinated) – 9499P
touch-up, by electrodeposition, bare areas – 329P
transparency, fluoropolymers/curing agents/iron oxide – 6743P
tropical conditions, testing (accelerated/coastal) – 9452
two-component, epoxies – 1775
types/comparison – 4307
types/pretreatment/ships etc – 366
types/selection/costs/systems – 7525
undercoats, epoxies/silica – 1085P, 1086P
valves (underground), standards – 1440
water-borne
—acrylic/urethanes copolymers – 974P
—acrylics – 1768

Anticorrosive Coatings *(continued)*
—acrylics (carboxylated)/phosphates (pendent) – 9222P
—acrylonitrile copolymers – 8220P
—aluminium dihydrogen phosphate, mechanisms – 4310
—aminimides groups/fluoroalkyl groups etc – 9501P
—benzothiazolylthiosuccinic acids – 6750P
—block copolymers, butadiene, epoxy groups – 3494P
—cross-linking/reactive pigments – 9471
—epoxies powders/polymethacrylic acid – 7559P
—epoxy esters/silica – 8432P
—epoxy/alkyds products with epoxies – 1084P
—exhaust systems – 2535
—film formation/water uptake/permeability etc – 6708
—for aluminium – 963P, 1081P
—formulation/components effects, performance – 2673
—hydrophilicity, water-solubles/microgels etc – 5178P
—pigments (flake), PVC etc – 4547
—proprietary, performance/mechanisms – 362
—scratch resistance – 960P
—silicates (various)/silica/organics etc – 1091P
—talc (modified), by silanes – 6734
—wollastonite (treated) – 3959
—zinc phosphate (modified) – 749
—zirconates/silanes/keto compounds – 5935P
zinc chromate, EM/chlorides immersion etc – 7008
zinc powders/nickel powders/epoxies – 8436P
zirconates (fluorinated) – 9498P
Anticorrosive Compositions
bitumens/polypropylene – 9500P
sulphonates/fatty acid esters/lecithin/oils – 9495P
Anticorrosive Pigments
adhesives, aluminium phosphate/zinc compounds – 6601P
aluminium phosphate – 4848P
aluminium tripolyphosphate (modified), properties/use – 6713
aluminium tripolyphosphate/lead/zinc, non-toxic – 8994P
antimicrobial activity – 3523
carboxylates, amide/sulphonamide groups – 8977P
core/shell, cores (conductive)/metals (anodic) passivation – 10P
corrosion resistance, testing methods – 9424
electrocoating, aluminium tri-polyphosphate/lead/zinc – 9231P
ferric oxide (alpha-) – 7961
flake, review – 2250
ion exchange
—calcium ions/silica – 758
—materials (inorg) – 6758P
—silica/calcium ions – 6698
iron oxide (micaceous, synthetic) – 750
iron oxide (micaceous), mechanisms/uses/performance – 751
lead/chromates replacement – 8398
non-toxic, types – 1457
oxides (mixed), aluminium/magnesium/zinc – 3974P
particles (metal-coated), SG adjustment – 2705P
phosphates (hydrogen)/carbonates – 8984P
phosphates (treated), by iron ions – 1477P
proprietary
—ion exchange, silica/calcium ions – 364
—PVC effects – 1454
replacement
—benzothiazolylmercaptosuccinic acids – 2656
—partial, iron oxide (flake)/synergism – 3105
review – 4812
silica (calcium-containing) – 8992P
silica (coated) – 5021P
silicates (coated) – 5021P
specularite – 7961
strontium chromate, standards – 4775
toxic materials in, Europe/USA – 652
types – 4323
types/mechanisms/future – 1457
types/protective mechanisms/properties – 8962
water-bornes, types/performance – 2673
wollastonite (treated) – 3959
zinc compounds, electrochemical measurements – 2256
zinc dust (modified), by ferrites – 7
zinc phosphate
—effectiveness, rural/polluted etc – 355
—spheroids/excess oxide – 7966P
zinc phosphate (modified), extenders/pretreatment effects – 749
Anticorrosive Primers
abrasion resistance, epoxy phosphates/polyurethanes – 9485P
aircraft, hydraulic fluids resistance/chromates-free – 3459
calcium carbonate, chromates/silicochromates replacement – 7949
electrochemical measurements, epoxy/polyesters pigments effects – 1054
epoxies, manganese ores & – 1759
hydrotalcite (modified) – 2706P
interpenetrating networks – 7545
iron oxide (flake), corrosion resistance/synergism – 3105
iron oxide (micaceous, synthetic) – 750
pigments, ion exchange, silica/Ca ions – 364
proprietary
—containers (cargo), zinc phosphate (modified) – 3465
—zinc phosphate – 9402
tannins/binders – 300
tropical conditions, testing (accelerated/coastal) – 9452
urethane prepolymers/phenolics/halogenated – 1079P
water-borne
—epoxies, pigments/factors – 354
—polybutadiene/phenolics – 231P
—polymerisation presence silica sol/silanes – 1090P
Antifoulants
acids (monobasic), polymers/metal salts & – 426P
acrylamide (substituted, fluorinated) – 4094P
ammonium compounds (quaternary), diaminediacetic acid esters – 9520
benzanilide derivatives (chemically-bound) – 9508
carboxylic acids, products with metal salts/polymers – 425P
coatings/membranes, organism triggered – 9523P
copper, gel coats – 5962P
diphenylamine (substituted), nitro etc groups – 8462P

Antifoulants *(continued)*
dithiocarbamates (mixed)/tetrachloroisophthalonitrile – 5959P
hydrazinothiotriazoles, derivatives, complexes/hydrazones blends – 6729
hydrolysis, to non-toxic materials – 4366P
ionene polymers – 4365P
labelling, regulations (Australian) – 8847
maleimides – 1100P
marine organisms as – 9519
molluscicides, saponins – 2734
naphthoquinone (substituted) – 2740P
NMR (tin-119), speciation – 508
organo-tins
—pollution/degradation half-life – 6203
—structure/activity – 7573
organo-tins (unsatd) – 9520
particles, disintegration in water (sea), acids/metals ions – 3543P
pollution (marine), biota effects, review – 7786
polymers, metals release/amphoteric residues – 8473P
polymers particles (cross-linked), metal ions/hydrolysable bioactives – 3541P
regulations/screening etc – 7568
resistance to, species/antifoulants, microfouling – 3529
review – 7574
testing, review – 410
tetrahydrothiophene dioxides (chlorinated) – 4366P
thiurams/tetrachloroisophthalonitrile – 5960P
thiurams/tetrachloroisophthalonitrile/dialkyl polysulphides – 5961P
triazines, complexes, corrosion inhibitors as well – 3524

Antifouling
See also fouling

Antifouling Compositions
proprietary
—approvals amendments – 6760
—Health & Safety Executive approvals – 8449

Antifouling Paints
acrylics/silyl groups
—antifoulants & – 424P
—hydrolysis (slow) – 7585P
adhesion – 9528P
ammonium/chlorophenols, non-polluting to fish etc – 5954P
approved, lists (UK) – 4799
boats – 5154
carboxymethylcellulose/ammonium groups, acrylics & – 3532P
colonisation, harbours exposure, UK – 3513
copper compounds
—rosin &, chemical changes – 7582
—ureas & – 8460P
copper materials/dithiocarbamates, acrylics (modified) & – 8476P
copper/cuprous oxide, acrylics/rosin & – 5958P
corrosion resistance, epoxies/curing agents/fillers – 9529P
cuprous oxide
—calcium resinates v rosin – 1094
—discolouration/hydrogen sulphide – 5943
—failure, copper compound blocking layers – 3514
—leaching rates required – 3508
—rosin/plasticisers &, bioactivity – 4358
cuprous oxide-free – 7570
developments
— 9510
—review, anticorrosives & – 7583
—salt/fresh water systems – 7570
enzymes/surfactants (cationic) etc – 1815P
film thickness – 4358
flow rates &, effectiveness/service life – 7563
fluoropolymers – 8505, 9510
fouling organisms, microfouling thickness/species – 3529
graft copolymers (fluorinated) – 9528P
heat resistance, silicon-containing polymers/antifoulants – 3492P
high-build, cuprous oxide/thixotropic agents/rosin etc – 4361
history/current research – 7567
hydrazinothiotriazoles, derivatives, complexes/hydrazones blends – 6729
ionomers particles (decomposable) – 9527P
maleic copolymers/naphthoquinone (substituted) – 2740P
manufacturers (UK), profiles/products – 672
metals, biocidal ions formation – 9530P
metals (heavy), neurotoxicity, rats – 7755
offshore structures, criteria/problems/mechanisms/economics etc – 8457
organo-bismuth compounds, decomposition in water – 4368P
organo-tin groups
—copper (compounds)/metal powders & – 1812P
—replacement – 426P
—siloxanes – 9510
organo-tins
—degradation in coatings – 2714
—micro-organisms, tolerance/organo-tins in biofilms – 7573
—NMR (tin-119) – 508
—regulations (various countries)/future – 717
—replacement – 3537P, 3538P
—Select Committee reports – 4768
—testing, Mallorca – 3502
—toxicity/monitoring/fate etc, review – 2726
pollution, air/water – 6716
pollution/regulations/testing – 9511
polymers (anionic)/surfactants (cationic)/phenols – 8464P
polymers (carboxylated)/metal salts/antifoulant acids products – 425P
polymers (water-soluble)/reactive resins – 6762P
polymers particles (cross-linked), ionomers – 3542P
polymers/metal salts/antifouling acids products – 426P
polymers/metals release, carbamates/thiocarbamates links – 8474P
proprietary – 1809
regulations/controls/proposed directives – 4740
research & development, Argentina/review – 4362
self-polishing
—ablation rates – 410
—colonisation, harbours exposure, UK – 3513
—film thickness, problems/control – 8447
—organo-tin species/rates from, fouling films effects on – 3516
—polymers particles (cross-linked) metal ions/hydrolysable bioactives – 3541P
—polymers/metals release – 8474P
—proprietary – 1809
—requirements/organo-tins/retarders etc – 1133

Antifouling Paints *(continued)*
—rosin/metalliferous pigments/polymers etc – 3537P, 3538P
ships, propellers, cathodic protection & – 5944
silanes (unsatd) polymers/antifoulants – 6766P
silicones
—primers – 6025P
—testing, rafts then flow cells – 3505
silicones/metals (bound) – 8475P
siloxanes (unsatd) copolymers, antifoulants & – 1101P
siloxanes (unsatd) copolymers dispersions, siloxanes & – 9531P
siloxanes (unsatd) polymers
— 8472P
—water repellents & – 8463P
siloxanes (unsatd) polymers/antifoulants – 6766P
siloxanes (unsatd) polymers/slipping agents – 8465P, 8470P
siloxanes etc (unsatd) polymers etc – 8467P
siloxanes etc (unsatd) polymers/lubricants – 8466P
siloxanes etc (unsatd) polymers/slipping agents – 8468P, 8469P, 8471P
silyl groups, esters, polymers with – 2736P
testing
—rafts then flow cells – 3505
—review – 410
tetrahydrothiophene dioxides (chlorinated) – 4366P
thiurams/benzothiazole/haloalkylthio, two of – 5952P
triphenyltin compounds, leaching rate determination – 1993
triphenyltin fluoride, leaching rates required – 3508
types/mechanisms/service life/proprietary – 1809
vinyl chloride copolymers – 7570
water-borne, ammonium (quaternary) – 5953P
water-line, organo-tins/rosin/polymers – 4356
Antifungal
See also fungi & fungicides
Antifungal Activity
aminocarboxylic acids – 7569
coatings, polymerisation presence silanes/fungicides – 6765P
microcapsules, polymers cores/metal (compound) shells – 4369P
organo-tins, from benzothiazolines/dimethyltin dichloride – 4363
oxazinones – 9507
oxazolidones (chlorinated) – 3522
paints, testing, spores/Petri dishes – 9517
pyridine oxide (mercapto)/benzimidazoles – 1818P
Antigens
See also antibodies & immune system
Antimicrobial Activity
ammonium groups (quaternary), copolymers – 8454
ammonium salts, spraying with polymers (acidic) – 3534P
anticorrosive pigments – 3523
coatings
—ferrous compounds etc – 5233P
—removable by acids – 4333P
—removable by bases – 4334P
corrosion resistance – 3523
determination, test strips with spores – 5946
oxazinones – 9507
oxazolidones (chlorinated) – 3522
pyridine oxide (mercapto)/benzimidazoles – 1818P
structure &, & designer biocides – 3515
Antimicrobial Compounds
oil field systems, testing – 1099
Antimonates
polyesters/glycidyl copolymers etc & – 863P
Antimony
exposure/hazards/monitoring (biological) – 5599
Antimony Compounds
coatings of, on titanium dioxide – 3118P
powder coatings, flame retardance – 2749P
wood preservatives, isothiazolones & – 3539P
Antimony Oxide
carcinogenicity, review – 9762
catalysts, polyesterification – 5721
coated
—by silica, chromate coatings – 1745P
—flame retardants/conductivity (electrical) – 7591P
condensed, sols, dispersions (aq) – 1834P
uses/producers etc – 7944
Antimony Pentoxide
coatings, against reflection – 6826P
powders, manufacture, dispersibility – 2748P
sealers (radiation-curable) – 3838P
Antioxidants
amines (aromatic) – 9003
ascorbic acid derivatives – 7287P
borates/amines products – 8534P
chemically-bound
— 2306
—mechanochemical synthesis for – 3144
—polymers, mixed stabilisers groups – 8029P
chemistry, review – 3992
coatings
—fluoropolymers over/under – 5179P
—pipes, loss control – 7619P
conductive coatings – 8534P, 8553P
diamines, ultraviolet radiation effects – 8019
dianhydrides/functional stabilisers products – 9045P
diphenyls (hydroxylated) – 1500P
for rubber, types – 8249
inks (water-borne) – 276P
mechanisms/synergism – 2306
organo-borons, hydroperoxides decomposition – 7277
phosphites (spiro), hydrolysis – 9024
polymers/pigments systems – 4299
printing inks (ink jet) – 274P
stabilisers (light), for polyolefins – 3144
sulphur-containing, polymers/organo-silicon groups & – 4132P
synergism, with stabilisers (light), mechanisms/review – 5648
testing (accelerated) – 5909
tocopherols
— 9003
—effects/crossover to pro-oxidant nature – 9004
treatment with, iron oxide – 6382P
types/mechanisms/catalysis, review – 7281
ultraviolet-curables, hydrogen evolution – 7076
Antique Effect
creation, methods – 332P
Antistatic Additives
glycerol monomethallyl ethers – 804P
phosphates (unsatd) – 805P
Antistatic Coatings
acrylics, chlorates/perchlorates/chlorites & – 9626P

Antistatic Coatings *(continued)*
adhesion, binders/elasticity – 6798P
bisimides/silyl groups/oxides sols – 9636P
coke/binders etc – 7609P
electron beam-curables
— 5522
—for plastics – 5429
fibres (coated), by nickel – 7597P
for glass, silanes/zirconium compounds etc – 1169P
for plastics, ethyl silicate (hydrolysed)/resins – 5207P
maleics/carbon black – 1159P
organo-silicons/tin co-hydrolysates – 7600P
rollers, fluoropolymers/fibres (coated) – 3581P
silanes/oxides – 3598P
thiophenes polymers – 5206P
walls/housings etc, acrylates etc – 473P
water-borne, sarcosinates/amines – 3588P
Antistatic Compositions
epoxies/mercaptans – 1584P
polymers/silyl groups, oxides/hydroxides & – 1163P
Application
adhesives, equipment – 5803
book chapters – 3101
coatings, to films – 8361P
dry-on-dry, acrylics over polyesters – 7410
dry-on-wet, over coatings on electrocoating (wet-on-wet) – 7506P
equipment
—directories (French) – 5600
—directories (US) – 8335
—proprietary/developments – 8397
—review – 4991
equipment (proprietary) – 7467
equipment (US) types/buying plans – 7157
fusion-bonded coatings, inspection & – 6992
industrial finishes, methods – 5094
linings, pipes, in situ – 9350
metallic finishes (two-tone), overcoating – 1740P
overprint varnishes (ultraviolet-curable) – 5095
pipeline coatings, interior, in situ – 6640
pipeline coatings etc – 305
pipes coatings (internal) – 1144P
primers, RH during/subsequent weathering – 1727
quality control – 5597
two-stage, long gap between coats – 361
wet-on-wet
—basecoat/clear, acrylics, lower/higher esters – 4993P
—basecoat/clear, basecoats, acrylics – 2792P
—basecoat/clear, polymers particles – 9491P
—basecoat/clear, topcoats, hydroxylics/amino resins – 9601P
—basecoat/clear, water-bornes/silyl layers – 9588P
—basecoats from acrylics, no primers needed – 4430P
—basecoats, acrylic/melamines – 1666P
—cellulose derivatives/acrylics – 471P, 472P
—clear on metallic – 7512P, 7513P
—electroc—metallic finishes, tackifiers – 1856P
—microparticles (cross-linked) – 5787P
—plastisols/topcoats – 9327P
—polymers (unsatd) on electrocoating – 402P
—polymers polymerisation for – 6566P
—then coatings over, two-tone effects – 465P
wire coatings, theory/simulation/experiments – 2636
Approval of Safety Standards Regulations 1987
standards (UK) lists – 4770
Aqualon Group
dissolution, Hercules buy out Henkel – 7868
Architectural Coatings
See also decorative coatings
colours, forecasts (US) – 492
emissions, volatiles (org), regulations (US) – 7193, 7201
polymers (vinyl), USA/Europe – 3875
statistics (Swiss) – 4696
Arctic Conditions
coatings – 8555P
corrosion, rates – 2671
Arizona Chemical Co
joint ventures, tall oil/Berguik Kemi AB – 5535
rosin esters, capacity expansion – 9934
tall oil products, plants/acquisitions – 5557
Arkol Srl
acquisition, by Casco Nobel – 3065
Aromatic Compounds
biodegradation, micro-organisms – 3512
chlorinated, GC/identification – 3697
corrosion by, copper, testing – 8884
definitions relevant to – 8929
determination
—in air, carbon (activated)/FTIR (in situ) – 4521
—in mineral spirits, GC – 8911
—in water – 2000
—in water, GC – 5288
exposure, blood erythrocyte haemoglobin patterns – 9795
fluorinated, from aromatics/fluorinated org acid salts – 8009P
perfluoroalkyl groups, synthesis – 9007
polycyclic
—determination in water, GC/MS – 3650, 3651
—exposure, roads dressing – 3772
—unsatd, copolymers, resists – 1306P
thermosetting compsns, cyanates & – 4112P
vapours, detection, piezoelectricity, crystals/coatings – 6064
Arsenic
determination
—HPLC/detectors, speciation – 5279
—laboratories comparison – 1936
—lobsters/MS – 1986
metabolism etc/monitoring (biological) – 5599
Arthritis
rheumatoid, artists/metals (heavy) – 1276
Artists
cancers etc – 2959
colour spaces, Pope colour system – 488
graphic, solvents exposure – 2967
materials, labelling – 8919
—standard specifications – 8923
—standards (US) – 3943

Artists *(continued)*
paints etc, waxes/colourants/glitter etc – 9314P
water colours, not staining clothing – 8545P
Asbestos
amosite
—carcinogenicity – 7035
—fibre length/peritoneal cavity inflammation – 7014
carcinogenicity
—inhalation/ingestion, review – 5369
—inhibitors – 9782
chrysotile/tremolite, carcinogenicity – 9764
clothing (protective)/worker changing etc facilities – 6182
coatings, fibres release prevention – 6778
determination, workplace/organisations (approved) – 7916
effluents, regulations (UK) – 9976
fibres
—anticorrosives – 4316
—determination, electron microscopy, samples preparation – 3654
—refractive index – 8681
handling, enclosures against dusts – 3931
hazards
— 2079
—review/books – 733
health & safety – 7220
motor industry & – 571
porosity, by mercury, pressure effects – 2920
regulations (French) – 715
regulations (UK) – 731, 4760
regulations (US) – 1451
removal, methylene chloride exposure during – 1271
respiratory systems – 2079
roofs, metallic finishes – 6816P
substitutes – 7962
toxicology, retinoic acid effects/macrophages – 9782
Asbestos Cement
ageing, mechanical properties & – 7639
coatings, epoxy silicones – 1177P
painting/coatings – 6810
roofs
—degradation, bacteria/condensation/freezing – 1811
—weathered, cleaning/painting/biocides – 8338
Ascorbic Acid
conductive coatings – 8553P
derivatives
—& coatings therefrom – 7287P
—antioxidants – 7287P
—glucosaccharoascorbic derivatives – 8552P
Ashes
fly, polymers/silica/calcium oxide etc & – 1716P
Ashland Chemical Co
vapour curing, licensing to Becker – 3055
Asian Paints (India) Ltd
profiles – 3920
Aspartic Acid
polymers, corrosion inhibitors – 8403
Asphalts
anticorrosives, petroleum sulphonates/fillers etc & – 4346P
coatings, petroleum sulphonates etc & – 1800P
emulsions
—asphalts/polyols/surfactants mixtures – 8172P
—breaking, agents – 3156P
emulsions (oil-in-water) – 4192P
GPC, composition information – 2853
modified, diamines/diacids/fatty acid residues – 2507P
underseals, polystyrene sulphonic acids salts & – 9605P
waterproofing/linings, properties/uses – 2766
Asthma
chemical industry, paints/titanium dioxide etc – 5351
control, coatings against mites/arachnids – 5212
isocyanates – 5352
methyltetrahydrophthalic anhydrides – 7033
occupational
— 7042
—definition/diagnosis problems – 7041
—diagnosis/prevention – 9791
—isocyanates, challenge tests results – 4594
—tetrachloroethylene – 6172
—toluene diisocyanate – 6172
people with, formaldehyde exposure & – 2963
toluene diisocyanate
—mechanisms – 4572
—recurs after eleven years – 6171
Atochem
acquisitions by, of part Sartomer – 3888
Atomic Absorption Spectrometry
bibliography on atomic spectroscopy – 518
combination
—with chromatography, techniques – 6063
—with GC, organo-tins/organo-lead – 6068
—with HPLC, arsenic – 5279
—with HPLC, element-specific detection – 2882
direct aspiration, lead in paint – 8935
effluents, cathode tube (hollow)/interferences etc – 3640
flame
—cadmium/lead in polyvinyl chloride – 9660
—calcium, flow injection analysis/interferences – 5277
—cyanides, via gold complexes – 6895
—lead – 6355
—lead (soluble) – 6353
—limitations/noise limitation/slotted tube atom traps – 9695
—sample drops aspiration from turntables – 2900
—spray chambers, performance – 7671
furnace, automation/precautions/water – 7692
graphite furnace
—automation, quality assurance during – 515
—equipment/characteristics/uses/metals (trace) – 3685
—metals (trace) in blood – 1230
—metals (trace) in water – 532
—modified furnace, organo-tins – 9672
—vaporisation (low pressure) – 3672
lead, in air – 1424
metals (heavy), sludges/sample preparation – 3703
principles/requirements – 1906
sample preparation procedures – 1948
sample sputtering, gas jet enhanced – 1964
tannins/iron oxide, chelating – 9681
titanium dioxide, trace elements – 2881
Atomic Emission Spectrometry
bibliography on atomic spectroscopy – 518
electrothermal atomisation, calibration – 3677
inductively-coupled plasma
—features/requirements/advantages etc – 4478
—Fourier deconvolution/lines overlap – 4529
—HPLC & – 6106

Atomic Emission Spectrometry *(continued)*
—HPLC (reverse phase), gradient (thermal) – 4481
—metals, multielement – 1232
—nebulisers/desolvation – 6109
—particulates extraction methods – 3675
—samples direct insertion – 4523
—solids aerosols introduction – 6939
—titanium dioxide, trace elements – 2881
plasma
—detectors for chromatography (ion) – 3700
—microwave-induced, direct nebulisation – 6091
—microwave-induced, nebulisers/desolvation – 6109
sources, tomography of sources – 3674
tin, analysis (trace)/interferences reduction – 1919
Atomic Energy
See nuclear entries
Atomic Fluorescence Spectrometry
bibliography on atomic spectroscopy – 518
detection limits/conditions, by element, review – 6101
plasma, microwave-induced, direct nebulisation – 6091
Atomic Spectrometry
atomisation, nebulisers, glass capillary arrays – 9656
bibliography on – 518
combination, with chromatography, techniques – 6063
Atomisation
– 8370P
books – 4797
centrifugal, spraying, tests – 4277
electrostatic spraying, equipment (proprietary) – 3437
nebulisers, glass capillary arrays – 9656
Attapulgite
producers/uses – 7945
properties/uses/grades – 9026
thickeners, mechanisms/use/thixotropy – 4871
Attrition
particles
—handling & – 8322
—modelling/examples – 3415
Auger Electron Spectroscopy
See electron spectroscopy
August Inc
acquisitions by, Red Spot Paint & Varnish – 7881
Australmin Holdings Ltd
titaniferous ores – 6293
Autoacceleration
See also gel effect
emulsion polymerisation, methyl methacrylate – 5713
polymerisation, acrylates, cross-linking agents – 5710
Autodeposition
See autophoretic deposition/coating(s) & autophoresis
Autoignition
See ignition (spontaneous)
Automation
AAS, quality assurance during – 515
AAS (furnace), automation/precautions/water – 7692
cleaning (vapour) – 6201
controllers (programmable) – 7445, 8342
conveyors (power-and-free), painting – 323
dip coating, handling/transport equipment – 2626
double bonds determination – 3695
electrocoating
— 341P
—cans removal – 1747P
electrocoating (cathodic) – 6659
electrostatic spraying
— 2625
—cylinders (gas) – 3431
energy management – 9967
filling – 7065
flow injection analysis – 9698
GC (inverse), polymers studies – 1945
handling, market (European)/forecasts – 1358
images analysis – 6144
inferential control algorithms (adaptive) – 7459
laboratories, robots – 512
mechanical testing (dynamic) – 4476
metering, powders – 4251
mills – 5835
monitoring, phosphating – 9340
paint manufacture
— 1723
—computers – 2519
—plants – 5080
—plants (Israeli) – 7458
painting
— 3101
—cylinders interiors – 7466
—plants/cans – 7485
—plastics substrates – 6653
—suspension units/electrocoating/controllers – 8342
partial, emulsion polymerisation – 8093
phosphating/electrocoating, lines – 4271
plants
—batch systems – 7460, 7461
—control, inferential, adaptive estimation algorithms – 1026
—decisions/quality control – 1723
polymers synthesis, formulation & – 5856
powder coatings application
— 3438, 4276, 5880, 6654
—handling/lines – 1726
power conversion systems, for finishing – 5875
pretreatment, phosphating/degreasing same tanks – 1736
printing inks manufacture – 5835
process control
—fatty acids synthesis – 4253
—loops/tuning coefficients – 8325
—polymerisation, implementation – 1535
—polymerisation, temp/algorithms – 1527
—specification development – 2519
—troubleshooting/expert systems – 3425
pumps, metering – 4250
reactors, pilot plants/data logging & analysis – 1722
rinsing, tanks water replenishment – 3430
spraying
— 1036, 3443
—reasons/examples – 3434
temperature control, tuning – 9331
ultraviolet curing, detectors/control – 5115
valves activation – 5079
Automobile Bumpers
coatings, phosphites/phosphates etc – 5209P
plastics, painting, plants – 6636

Automobiles
adhesive tapes, temp (low/high) – 3373
adhesives
—corrosion resistance/electrocoating – 6601P
—heating (induction) – 9286P
—use/forecasts (US), sealants & – 7855
—without primers – 3390P, 3391P
adhesives (epoxy)
—fast-curing compsns/no pretreatment – 3372
—mica/carbon black/rubber – 5827P
adhesives (heat-resistant) – 1000P
adhesives films, for metals, without primers – 3389P
aerosol paints, gloss/mica – 6017P
anticorrosives
—blind areas/steam etc cleaning – 4339P
—ion-exchange materials – 6758P
—metal layers/conversion/zinc-rich – 6730
—thin films/forming/electrocoating over – 8441P
—touch-up by electrodeposition – 329P
—undercoats, epoxies/particles – 1086P
—undercoats, epoxies/silica – 1085P
—waxes, transparency improvement – 406P
anticorrosives (thermosetting) – 5170P
anticorrosives (water-borne), epoxy esters/silica – 8432P
basecoat/clear
—basecoats (water-borne), acrylics – 9216
—basecoats (water-borne), microgels – 5785
—basecoats (water-borne), microparticles/xanthan gum – 6559P
—basecoats (water-borne), thickeners – 6561P
—basecoats, microparticles – 5787P
—siloxanes (unsatd) copolymers – 3488P
—topcoats, NADs – 1868P
—water-bornes, polymerisation for – 6566P
—wet-on-wet, topcoats, hydroxylics/amino resins – 9601P
—wet-on-wet, water-bornes/silyl layers – 9588P
cavities, temporary protection agents comparison – 8400
chip resistance
— 1897
—isocyanates (blocked)/polyamines – 9630P
—polyester-urethanes – 1874P
—polyesters/polyethers/amino resins – 1140P
—polyether-esters/amino resins – 458P
—transparent coatings over coated areas – 1176P
—undercoats, titanium dioxide/calcined kaolin – 2799P
—water-bornes – 949P
coatings
—acrylates (polyfunctional)/acrylates (fluorinated) – 1877P
—acrylic/melamines, curing (faster) – 1732
—acrylics (hydroxylated, carboxylated), amino groups, isocyanates & – 9093P
—acrylics/polyesters products – 6012P
—alkyds, gloss retention etc – 128P
—epoxies/polymers (amino-functional) – 403P
—fluoropolymers/polymers (carboxylated)/epoxy compounds – 2776P
—formulation – 4145
—gloss, intermediate coats, polyesters – 4434P
—hydroxylics/anhydride groups/chelating agents etc – 2798P
—manufacturers (Japanese), plants (planned) – 4707
—manufacturers (Korean, South) – 3911
—manufacturers acquisition – 3916
—melamine resins/antioxidants, fluoropolymers over/under – 5179P
—nacreous pigments/water resistance – 28P
—over topcoats without sanding – 8519P
—paint manufacturers (German parents/overseas) – 7171
—paint manufacturers (Italian) – 5537
—paint manufacturers reorganisation – 683
—phosphates (unsatd)/polymerisables – 2166P
—plastisols, migration resistance etc – 4249P
—polyesters/amino resins – 8558P
—polymers (hydroxylic) – 5728P
—stabilisers (light), amines (hindered) – 6408
—ultraviolet absorbers depth profiles, weathering – 1505
—wet-on-wet – 402P
—wet-on-wet, cellulose/acrylics – 471P, 472P
coatings (two-tone), methods/pigment concentrations – 465P
coil coatings, use/proprietary products – 3564
colour changes, by humidity/temp/light etc – 9637P
corrosion, control, design/measures – 8389
corrosion/paint defects, in-service, Which? – 4302
decoration, metal foils/adhesives/coatings – 474P
decorative coatings
—acrylics/fumarates copolymers – 5938P
—pigments (grooved) interference patterns – 1158P
decorative effects, coated sheets application – 8358P
electrocoating
—application (wet-on-wet) – 1793P
—binders/fibres – 972P
—cratering avoidance, cationics before – 241P
—silica (coated)/silicates (coated) – 5021P
—two layers, cationics/aq NADs in one/both – 237P
electrocoating (cathodic)
—fibres/whiskers – 5491P
—plants – 3429
—two layers/oil absorption values – 958P
—wet-on-wet – 5020P
—wet-on-wet, first lower/second all – 3452P
exhaust systems
—anticorrosives (water-borne) – 2535
—anticorrosives, epoxies/amines – 5165P
—anticorrosives/heat resistance – 5167P
film thickness, original/refinish distinction – 6973
finishing
—emissions reduction/regulations (US) – 8744
—emissions, solvents recovery – 3782
—equipment etc – 310
—plants – 5089
—plants/polyurethane clear coats – 5088
—pretreatment/electrocoating (anodic), basecoat/clear – 6635
galvanised steel, welding/phosphides particles – 6754P
heat-curables, acrylics – 9608P
high-solids coatings, water resistance/polyesters – 5003P
hot-melts – 258P
interiors, polyester-urethanes – 6027P
intermediate coatings, epoxies (linear)/polyesters – 4442P
laminates, steel/resins/steel, plating outer – 2713P
manufacture
—health & safety, plants (UK) – 9761
—wastes/emissions treatment etc – 6200

Automobiles *(continued)*
manufacturers, quality assurance – 9948
metallic finishes
—application (wet-on-wet) – 1856P, 4435P
—basecoats, self-crosslinkables – 5234P
—electrostatic spraying – 1857P
—pigments orientation – 3579P
—silyl groups/carboxylated etc copolymers – 1860P
—titanium dioxide – 9586P
—transparent coatings – 1165P
metallic finishes (water-borne) – 957P
—polyurethanes – 2773P
nacreous pigments, mica (coated) – 29P
paint defects, causes, MS (laser microprobe)/microscopy – 3649
painters, diisocyanates/biuret-modified – 2048
painting
—dusts removal from painted – 1743P
—effluents treatment – 4619
—environment/quality, developments/time/Germany – 2629
—plants, investment – 3898
—spray booths legally required, cases – 3076
panels, basecoat/clear simulation – 6818P
phosphating
—dip processes – 2630
—zinc phosphate, application/use effects – 2686
plastics &
—adhesives – 3391P
—adhesives/primers, tapes etc – 3392P
—blends, paintability/reactive sites – 1113
—coatings, cyclopentyl acrylate polymers/polyolefins (chlorinated) – 1842P
—coatings/impact strength – 440
—electrocoating (cathodic) curing temp reduction – 9217
—moisture-curables – 9549P
—painting, experiences/selection/on-line/off-line etc – 2632
—painting, factors/selection/application – 1115
—painting, plants/just-in-time – 5086
—painting, properties/economics – 1114
—spoilers, basecoat/clear, polyurethanes – 9544
plastics (reinforced), coatings/substrates emissions/blistering – 6789
polishes, alkoxides, chemical binding – 6622P
polyurethane coatings
—microcapsules with isocyanates – 456P
—photochemistry – 411
polyurethane coatings (one-component) – 6842P
polyurethane coatings (two-component) – 6000P
polyurethane coatings (water-borne) – 5789P
powder coatings
—amines (hindered)/spiro groups/polymers – 1686P
—diallyl terephthalate copolymers – 9249P
—pretreatment/application/curing/uses etc – 5797
pretreatment/electrocoating (cathodic), lines – 5104
primers
—flexibility, temp (low) – 469P
—rubber/metals bonding & – 3599P
quinacridone pigments (beta-, modified) – 8978P
refinishing
— 5899
—acquisitions by US – 3906
—acrylics (proprietary) – 3574
—basecoat/clear, microparticles – 6568P, 6569P
—coatings, Michael adducts formation – 4423P
—metallic finishes, air-drying compsns – 6821P
—polymers (branched/unsatd) – 4923P
—problems/paints requirements – 317
—stabilisers (light) – 9033P
repair, hazards/hearts/cancers, epidemiology – 5363
repair painting
—stages/chemistry – 5224
—thermoplastics – 1164P
roughness, of substrates, gloss/distinctness of image etc & – 3607
sealants, use/forecasts (US), adhesives & – 7855
sheets (coated) application, basecoat/clear – 9379P
soft-feel coatings, scratch resistance – 9594P
spraying
—water-bornes, overspray treatment – 2974
—workshops/regulations (Norwegian) – 4738
steel (coated), use/future – 5153
steel (metal-coated)
—binders/stainless steel over – 404P
—one side – 8444P
—properties/electrocoating – 6703
—Zn/Co then Zn/Ni then coatings – 398P
steel (zinc-coated)
—chromating/anticorrosives – 3495P
—chromium oxide layers, paintability – 1043P
—pretreatment – 2645P
—two layers alloys – 5174P
—Zn/Ni alloys, coatings – 4327
steel (zinc-coated)/coatings – 8440P, 8443P
steel for, appearance/properties/metal coatings – 5898
tanks (petrol), anticorrosives – 4300
temporary protection
—carboxyl/hydroxyl/sulphonic groups – 1078P
—solvents (water-soluble)/overspray – 5933P
—waxes (oxidised)/waxes (microcrystalline) etc – 1087P
topcoats
—alkyds – 2702P
—melamine resins/hydroxylics – 9614P
—polyesters (hydroxylated)/reactive resins – 9617P
—polyesters, Tg/melamine proportion – 8542P
trim, weathering, natural/test plates on vehicles – 3472
ultraviolet absorbers – 3997
undercoats, epoxies (modified)/silica – 1799P
underseals
—asphalts/polystyrene sulphonic acids salts – 9605P
—epoxies/polydienes/curing agents – 9625P
undersides
—coatings, asphalts/petroleum sulphonates etc – 1800P
—coatings, plastisols – 1719P
—polyurethanes/oils/plasticisers – 5037P
water-bornes, powders/solutions of polymers – 6572P
water-bornes (thermosetting), epoxy/polyesters – 226P
weldable coatings, for steel (zinc-coated) – 9493P
wheels
—coatings, rheology/edges etc – 8529P
—hub-caps, chip resistance – 464P
windows
—guiding slots, abrasion resistant coatings – 5236P

Automobiles *(continued)*
—guiding slots, abrasion-resistant coatings – 1885P, 2779P
—sealants not affecting paints – 5851P
—strippable coatings/transmittance control – 8575P
—weatherproofing strips, lubricating coatings – 3560P
windscreens, phthalocyanines/infrared absorption – 13P
Autophoresis
gels from, permeability – 7744
Autophoretic Coatings
acrylics, carbon black/ferric fluoride etc, baths – 7387
cooling systems, aluminium alloys – 9435
gloss, improvement, uncured coatings treatment – 5013P, 5786P
styrene/butadiene copolymers, carboxylic acids & – 9218
Autophoretic Deposition
advantages/markets/processes – 9345
baths stability, factors – 7387
Autoxidation
alkyds, FTIR (photoacoustic) monitoring – 4520
antioxidants, pro-oxidants effects when concentrated – 9004
benzaldehyde, catalysts oscillations – 2293
combination, with ultraviolet, separate – 5440
elaeostearates – 6394
inhibitors
—amines as – 9003
—tocopherols – 9004
kinetics, Arrhenius from structure/exothermicity – 3132
linolenates, dimers from, thermal decomposition products – 9678
mechanisms, analysis techniques & – 2856
mechanisms/curing rate factors – 4013
methyl linoleate, fructose/metal salts effects – 42
NMR (carbon-13) – 1213
photoinitiators & – 786
polyolefins – 3144
volatiles from – 786
Avi
acquisition of shares in, more, by Orkem – 1376
Azaconazole
emissions, from wood, levels – 6204
Azetidines
polymerisation (cationic), review – 2449
Azides
benzylidene groups, photoresists – 8650P
difunctional, from isophthalaldehyde/azidoacetophenones – 9879P
diketones, resists – 4656P
glycidyl ethers, sulphonylazide groups – 1495P
photocurables, polyimides & – 9851P
photoresists
— 2153P
—acrylics & – 5465P
resists
—polystyrene (substituted) & – 3856P
—silanes & – 638P
sulphonated, photocurables, polyamines (unsatd) & – 7113P
Azido Groups
hydroxystyrene polymers, photoresists – 8781P
phenyl rings, aldehydes products with indene/fluorenes – 615P
siloxanes (ladder), photoresists – 7815P
Azines
dermatitis (contact) – 552
fluorinated
—polymerisation, by adducting with dienes – 1612
—products hydroxy diene esters, polymers – 6500
Aziridines
adhesives (water-borne), polymers (carboxylated) etc & – 9307P
groups, adhesion promoters for plastics – 9040P
polyfunctional
—coatings, acrylics/polyolefins & – 4443P
—dispersions (aq), carboxylated compounds & – 4183P
polymerisation (cationic)
—networks synthesis – 4100
—review – 2449
unsaturated
—macromonomers, synthesis presence polymers – 2375P
—products with carboxylated etc – 9528P
Azo Compounds
amino groups, spectra effects – 1201
asymmetric, photochemistry, isomerisation/decomposition – 7075
azo sulphonates, photolysis/thermal decomposition/initiators – 9057
azo sulphones, photolysis/thermolysis studies – 9057
carbenes from, products polybutadiene – 8074
diketones, resists – 8795P
initiators
—amidine groups – 828P
—decomposition rates prediction – 1540
—piperidinium groups, polystyrene synthesis – 8066
—review – 2343
photoresists
— 1324P
—diazoquinones & – 7112P
—light absorption – 6231P
synthesis, coupling, liquids sheets impingement – 8324
Azo Dyes
allergies, & precursors, review – 2064
benzophenones/pyridones – 6383P
blue, charge transfer (intramolecular), dichroism – 3113
from dihydrophenophosphazines – 757
HPLC (reverse phase), impurities & – 1227
isoquinolones, blends with pigments – 6379P
NMR (two-dimensional), proton/carbon-13 – 8631
printing inks (ink jet) – 5836P
sulphonated
—inks (water-borne) – 3409P, 9320P
—piperazine/naphthol, inks (water-borne) – 6604P
—printing inks (water-borne) – 6612P
—printing inks, ink jet – 6605P
Azo Groups
azo sulphonates, water solubility, insolubilisation photochemistry – 9841
polyethers, initiators (polymeric) – 1533
Azo Pigments
acetoacetanilides
—molecular orbital calculations – 753
—spectra/molecular orbital – 8564
allergies, review – 2064
benzimidazole naphthols – 7238
crystal data/X-ray diffraction – 7240
inks (magenta) – 2269P

Azo Pigments *(continued)*
isoquinolones, blends with dyes – 6379P
lakes
—barium, carboxylated/sulphonated – 3116P
—naphthoics/benzenesulphonics, strontium salts – 772P
—sulphonated/carboxylated, strontium – 2270P
lightfastness, ultraviolet absorbers bound some – 3115P
manufacture, benzamide/naphthol/ethoxyanilide – 18P
naphthoic/toluidinesulphonic & naphthylamides blends – 3129P
red
—advantages etc, of various – 7227
—Naphthol reds, types/properties/uses – 7226
—properties/disadvantages/uses – 8963
sulphonated, printing inks (ink jet) – 7433P
treatment – 6392P
Azobenzene
groups, pendent, vinyl alcohol copolymers – 7000
substituted, substituents/spectra – 1201
Azobisisobutyronitrile
end groups from, ketones (unsatd) polymerisation – 1557
Azoles
adhesives (anaerobic) – 8286P
Azomethine
See also bisazomethines
Azomethine Compounds
acetylene groups, dihydropyridine-containing polymers – 4111P
adhesives
— 8276P
—glycidyl compounds & – 2582P
—mono-/difunctional mixtures – 2584P
chromones, ketones/azaxanthones from – 3137
cyano groups, synthesis/Diels-Alder reaction/polymerisation – 2282
polymers, fumaronitrile polymers as – 895
storage, air displacement – 2583P

B

Back-scattering
See also ion scattering spectroscopy in addition to back-scattering (Rutherford)
Bacteria
activity against, polymers/ammonium groups – 8454
concrete &, sulphide environments – 389
corrosion &, case histories – 3482
emissions treatment – 2120
fouling
—growth/reproduction at surfaces – 416
—organo-tins &, tolerance/accumulation in biofilms – 7573
hazards, Legionnaires' disease – 7011
identification, electrophoresis/labelled proteins – 2732
iron oxide (micaceous) manufacture using – 21P
marine, polysaccharides from, cultivation – 7416
nitrifying, asbestos cement degradation – 1811
oil field fluids, sampling/counting/control – 1099
paints & – 3503
pipes/mastics & – 9514
resistance to, paints, in-can, tests – 2722
substrates (coated), fungal growth & – 3517
sulphate-reducing
— 9408
—biocides, testing/cross-resistance – 417
—biocides/surface colonisation – 417
—cathodic protection & – 5138
—control – 1099
—corrosion &, cells study, mechanisms – 2719
—corrosion &, marine/green rust – 5917
—corrosion (marine) & – 5138
—corrosion/cracking (fatigue) – 3467
—detection methods – 418
titanium dioxide slurries – 2715
toluene tolerance – 5180, 5182
Bactericides
chemically-bound, styrene polymers – 5957P
polyurethane coatings – 6763P
thiophene thiocyanates – 1817P
Bagasse
treated, enzymatic susceptibility – 4143
Ball-point Pens
inks
—ball point abrasion avoidance – 2598P
—dispersants (polymeric)/polymers particles – 2598P
—rheology – 5068P
inks (invisible), ultraviolet radiation development – 1711P
inks (water-borne)
—azo dyes – 3409P
—lubricants – 3408P
—lubrication/additives/dyes – 9318P
BAPCO
acquisition
—by ICI – 692
—by ICI – 3060
Barium
paints, regulations (UK) non-compliance – 1268
Barium Carbonate
inhalation, paralysis (hypokalemic) – 2965
manufacture, plants (Japanese), plans – 7879
plants, Pakistan – 4709
Barium Chloride
excise duties, EEC, anti-dumping – 8853
statistics – 8853
Barium Compounds
coatings, lightning & – 8520P
Barium Ferrite
synthesis – 6380P
Barium Metaborate
coatings, phosphorothioates & – 6808
Barium Oxide
curing accelerators – 197P
Barium Sulphate
See also barytes
anticorrosives, asphalts etc/calcium carbonate & – 4346P
blends, with pigments, absorption coefficient – 753
dusts, hazards – 733
insulation (acoustic) – 5849P
manufacture, plants (Japanese), plans – 7879
modified
—adsorption on, organics – 4534
—surfaces (reactive), coprecipitation – 4839P
precipitated, properties/gloss paints/titanium dioxide – 4814
Bark
extracts, wood preservatives from – 9516
of Albizia spp, molluscicides – 2734

Barnacles
larvae, light wavelength/survival – 4360
Barrels
wood, coatings for wood/hoops – 1098
Barrier Coatings
against water, middle layers hygroscopic – 6802
anticorrosives as – 362
cathodic protection – 9451
containment structures, against tanks leaks – 7603
fluoropolymers layers/carbon (activated) layers – 2700P
for board, against formaldehyde, testing – 4415
for metals – 9399
for plastics, bottles, oxygen/water vapour – 5984P
for plastics (reinforced) – 6791
formulation – 5145
polyethylene, plasma polymerisation – 2635
polyethylene/plasticisers – 7610P
polymers/sugars, improvement by sugars – 9593P
primer sealers, styrene/butadiene copolymers – 5012
rebars – 4425P
review, types/mechanisms/pigments etc/thickness – 5145
silicones, over cementitious – 5249P
vinyl alcohol copolymers – 443P
water-borne, water vapour permeability – 7391P
wollastonite (treated) – 3959
Barrow Hepburn PLC
divestments, Tor Coatings Ltd – 3894
Barvy a Laky
statistics – 4679
Barytes
See also barium sulphate
statistics/producers/capacities etc – 7942
Basalt
fillers, paints combustion &, low smoke etc – 6785P
BASF AG
– 5566
dispersions, activities/aims/locations etc – 5567
financial performance/products – 698
BASF Group
– 5566
activities/policies, interviews France/Benelux directors – 9960
diisocyanates, plants (planned), Korea – 5546
printing inks, Europe etc – 5539
BASF Lacke & Farben AG
financial performance/activities – 7858
printing inks/binders/investment – 9939
BASF Peintures & Encres SA
plants/products – 4731
Bassi Marchini & C SpA
– 3064
Baths
powder coatings, diallyl terephthalate coatings – 9249P
Bayer AG
financial performance/products – 698
Bayer Group
diphenylmethane diisocyanates plants – 679
polyesters (unsatd), plants rebuilding – 6304
Beardow & Adams (Adhesives) Ltd
hot-melt adhesives/single European market – 6278
Beazer Group
divestments
—polyesters (unsatd) business – 5534
—Thiem Corp/resorcinol products – 3909
Bechtel
titanium dioxide plants construction – 4714
Becker Industrifarb AG
vapour curing, licensing from Ashland/sub-licensing – 3055
Becker Pulver Farben AG
powder coatings, joint ventures – 7884
Beepee Coatings
acquisition, by Berger Paints (India) Ltd – 1366
Beeswax
chromatography (supercritical fluid)/MS – 4497
GC – 4492
Beijing Red Lion Coatings Corp
joint ventures, DSM Resins BV & – 3058
Bend Tests
See also mandrel bend tests
Bentonite
barrier coatings, permeability to vapours – 7391P
paper coatings – 2755P
rheology, nitrile rubber & – 6868
white, deposits/statistics/producers/uses – 7945
Benzaldehyde
oxidation, in air, catalysts oscillations – 2293
Benzanilide
derivatives
—molluscicides (chemically-bound), release – 9508
—polyamide-imides – 162
Benzanthrones
photoinitiators, aniline derivatives & – 614P
Benzene
carcinogenicity
—exposure length/discontinuities – 9792
—review – 9762
determination, workplace/organisations (approved) – 7916
electropolymerisation, factors – 4897
exposure
—signs/symptoms, toluene & – 2116
—toluene &, metabolic suppression (mutual) – 2954
exposure (low), effects – 2115
monitoring (biological)
—HPLC, muconic acid/urine – 4500
—phenol in urine – 2865
—urine/trihydroxybenzenes – 9690
prices/markets/statistics, USA – 9924
toxicity, mechanisms/review – 2087
Benzhydrols
carboxylated, polyimides, endomethylenetetrahydrophthalimide ends – 2474P
derivatives, polyimides – 890
polyimides, soluble in basic, insolubilisation – 9144P
Benzhydryl Groups
maleimides (polyfunctional) – 4373P
Benzidine
chlorinated
—dispersions (aq), surfactants (non-ionic) – 9020P
—sulphonation – 8979P
derivatives
—carcinogenicity, review – 9762
—pigment compsns, disazo pigments & – 1469P
replacement, azo from dihydrophenophosphazines – 757
substituted, products with zirconium chelates – 2486
Benzidine Pigments
from benzidine (chlorinated, sulphonated) – 8979P
manufacture, benzidine dispersions – 9020P

Benzil
ketals
—photoinitiators, efficiency/amines/FTIR – 2984
—photoinitiators, products/amines role – 1286
photoinitiators, thioxanthones/amines & – 3798
Benzimidazoles
amides groups, stabilisers (light) – 3148P
block copolymers – 163
corrosion inhibitors – 392
groups, naphthols, & pigments – 7238
thiazoles groups, antimicrobial activity – 1818P
Benzimidazolylcarbamates
fungicides (bound) – 1819P
Benzoates
halogenated, dehalogenation, by organisms – 8740
inks (water-borne), ball-point pens – 9318P
Benzocyclobutene
groups
—bisphenoltetracarboxylic diimides (fluorinated) – 2463
—reaction with dienophiles (polyfunctional) – 2463
substituted, imides etc from – 892
Benzodioxanes
stabilisers (light), for dyes etc – 3155P
Benzofuran
See coumarone entries
Benzoguanamine Resins
modified, printing inks, phenolics (modified) & – 9309P
Benzoic Acid
derivatives
—amino groups, products with urethanes – 6503P
—hydroxymethyl, adhesives – 9108P
Benzoin
derivatives, photoinitiators, (thio)pyrylium & – 6232P
modified, hydroxymethyl, sulphonates, photoinitiators – 3800
photoinitiators, phenones (hydroxylated) & – 7116P
toluenesulphonates, catalysts (latent) – 2524
Benzoin Ethers
polycarbonates, main chain units, breaking/block copolymers – 4629
Benzophenones
adducts, with silanes/allyl groups – 4858
blends, photoinitiators (proprietary) – 3804
derivatives, water-soluble, photoinitiators – 2176P
diazonaphthoquinonesulphonate groups — 7818P, 7825P
—photoresists – 2172P
diffusion, in polymers – 9732
hydroxylated, modified, photoresists, novolacs & – 7095P
modified, by diazonaphthoquinonesulphonic acids – 2147P, 2171P
photochemistry, in acrylics, films – 2253
photoinitiators, aniline derivatives & – 614P
photoinitiators (water-soluble), photochemistry – 593
polyether-ketones – 853P
stabilisers (bound) – 59P
substituted, alkyl groups, properties/photochemistry/initiators – 2128
Benzophenonetetracarboxylic Acids
polyimides – 904P
Benzophenonetetracarboxylic Dianhydride
acrylic/urethanes from, ultraviolet-curables – 6210
polyamic acids, blends other curing – 5737
Benzopyrans
derivatives, colourants, particles treated with – 4841P
unsaturated, copolymers, photochromicity – 1519P
Benzothiazole
mercapto
—photoinitiators, kinetics – 8762
—potassium salts, products polyepichlorohydrin – 3808
—succinic acid substituted by, corrosion inhibitors – 2655, 2656
—thioethers, corrosion inhibitors – 6750P
—ultraviolet-curables, hydrogen control – 9901P
substituted, antifoulings, other agents & – 5952P
Benzothiazolines
complexes, organo-tins, ring-opened – 4363
Benzotriazole
anticorrosives, acrylamide polymers & – 2698P
derivatives
—liquid, ultraviolet absorbers – 3997
—spectroscopy – 6955
—unsatd, copolymers – 810P
groups
—phenols (unsatd), stabilisers – 2308P
—phenols, silyl groups – 5653P
—phenols, stabilisers (light, bound) – 3157P, 4827P
—phenols, ultraviolet absorbers (bound) – 3115P, 3967P
—phenols, ultraviolet absorbers/synthesis etc – 8010P
—phenols, unsatd, synthesis/polymers – 56
phenols, polyfunctional, spectroscopy – 6956
ultraviolet absorbers, fillers modified by – 3994
unsaturated, spectroscopy – 6955
Benzoxazoles
block copolymers – 163
mercapto, potassium salts, products polyepichlorohydrin – 3808
Benzoyl Peroxide
end groups from — 8058
—diphenylpropenes effects – 5694
initiators, methoxystyrene &, end groups – 3221
Benzoylallyl Alcohols
corrosion inhibitors, kinetics/mechanisms – 9422
Benzyl Alcohol
synthesis, wastes, diphenylmethane from – 7262P
Benzyl Compounds
substituted, photocurables – 7097P
Benzyl Groups
main chain, polymers, synthesis – 3216
Benzylamine
derivatives, copolymers, isocyanate groups & – 2482P
hydroxylated
—chelating agents, for metal substrates – 1073P
—N-substituents, chelating – 4337P
—ring/N-substituents, chelating – 4336P
Benzyldimethylamine
polyesters (unsatd) & – 1827P
Benzylidene Compounds
azides, photoresists – 8650P
ketones (cyclic), photoinitiators – 5474P
Benzylideneacetophenones

Benzylideneacetophenones *(continued)*
groups (pendent), polyimides/polyamic acids – 1315P
polymerisation, tungsten hexachloride, polyenes (conjugated) by – 9070
Benzylidenemalonates
ultraviolet absorbers, photochemistry/concentration/efficiency – 2300
Benzylidenesorbitols
paints (solid), polymers blends & – 4153P
Berger Paints (India) Ltd
acquisitions by, of Beepee Coatings – 1366
agreements, with Teodur – 1366
Bergvik Kemi AB
acquisition, by Arizona Chemical Co – 5557
joint ventures, tall oil/Arizona Chemical – 5535
Berlin Blue
See Prussian Blue
Beta-backscattering
film thickness monitoring – 9729
Beverages
cans, coatings, epoxy/phenolics – 5251P
Bicarbonates
milling presence – 1483P
Bicyclo Compounds
polymerisation (metathesis) – 3202
unsaturated, strained ethylenic bonds – 2379
Bicycloheptenes
chlorinated, polyesters (unsatd) from, pyrolysis – 2413
groups, on bisphenol A glycidyl ethers – 2423P
Biguanides
biocides – 1450
Binders
directories (US) – 4146
history – 9055, 9192
market/technology forecasts – 1331
proprietary – 670
regulations/effects – 3084, 6357
statistics (German) – 654
vinyl polymers, types/formulation – 205
Biocides
– 3511, 4873
activity, structure &, & designer biocides – 3515
allenes, thiocyanates groups – 2739P
ammonium compounds, surface activity – 3535P
ammonium compounds (quaternary), diaminediacetic acid esters – 9520
approved, lists (UK) – 4799
artists' materials – 427P
bacteria (sulphate-reducing), testing/cross-resistance – 417
books, disinfectants & – 1450
borates (org) – 419
building materials, testing/methods – 412
chemically-bound, benzanilide derivatives – 9508
coatings
—against arachnids etc, contact – 5212
—buildings & – 8455
—testing – 3517
determination, in slurries – 2715
diphenylethanes (chlorinated), review – 9799
dithiolones, thiocyanates/isothiazolinones & – 1814P, 2738P
for stone/concrete, types/performance/problems etc – 3520
health & safety – 7220
health & safety data sheets – 4800
in-can
— 1810, 7575
—testing – 2722
ion-exchange resins/metal ions, coatings – 3536P
metals (heavy) – 5171P
microencapsulation – 1516P
molluscicides, saponins – 2734
organo-tin compounds (unsatd) – 9520
paint manufacture – 7575
paints, review – 7574
particles (core/shell), cores (cross-linked/metal-containing)/grafts – 4084P
polyurethane coatings – 6763P
proprietary
—approvals (provisional)/amendments – 6760
—coatings – 1810
—dithiocarbamates/hexahydrotriazines – 2728
—for surfaces, Health & Safety Executive approvals – 7571
—water-bornes, & tests/toxicology – 2728
resistance to, & disinfectants – 1450
roofs &, lichens removal/paints – 8338
selection/proprietary products – 1810
surface, proprietary, Health & Safety Executive approvals – 9512
synergism – 1450
testing, board (proprietary) substrates – 1096
thiazolopyrimidones – 1807
titanium dioxide slurries – 2715
water-bornes
— 427P
—nitropropanediols (brominated)/others – 3510
Biodegradation
anaerobic, of chemicals, testing – 577
asbestos cement – 1811
buildings – 7576
buildings (wooden) – 8453
emulsifiers/anti-foaming agents – 807P
emulsion paints, fungi from – 3525
graft copolymers, starch/polymers – 8448
paintings (wall), fungi, species – 7579
pentachlorophenol, by fungi – 5948
polyethylene, ultraviolet before – 409
polymers, biological environments – 4364
testing/various polymers/radiation/morphology etc, review – 4359
toluene/chlorinated compounds – 8743
wood – 4357
Biodeterioration
conferences, papers – 3953
marine organisms, conference papers – 7934
Biological Activity
acids, release from particle disintegration – 3543P
Biological Exposure Indices
See also biological exposure limits, Biologische Arbeitsstoff-Toleranz-Werte & 'monitoring, biological' – 7044
definitions/lists, Arbeitsstoff-Toleranz-Werte & – 4617
derivation, from TLVs, pharmacokinetics – 1279
trichloroethane – 2081
US, lists, adopted/intended – 2942
Biological Exposure Limits
See also biological exposure indices, Biologische Arbeitsstoff-Toleranz-Werte & 'monitoring, biological'
styrene, from monitoring (biological) – 2977

Biological Oxygen Demand
See oxygen demand (biological)
Biologische Arbeitsstoff-Toleranz-Werte
See also biological exposure limits, biological exposure indices & 'monitoring, biological'
definitions/lists, biological exposure indices & – 4617
lists – 4615
Birefringence
flow, book chapters, polymers & – 1886
flow & – 6854
Bisazomethine Pigments
from quinazoloquinolines – 752
Bisazomethines
See also azomethine entries
from anthranilic acid, via quinazoloquinolines – 752
unsaturated, & complexes/polymers thereof – 5645P
Bischloromethyl Ether
carcinogenicity, review – 9762
Bisimides
dispersants, amino groups – 8993P
from thiophene derivatives – 1611
siloxanes (cyclic) linked by – 8165P
silyl groups, coatings – 9636P
unsaturated
—products with aminophenol/aniline – 8287P
—products with ketones/activated methylene – 8140P
Bismaleimides
coatings, epoxy/phenolics & – 9627P
curing agents for – 892
cyanates & – 6521P
diluents (reactive) for, eugenol derivatives – 7261P
epoxies &, boron trifluoride complexes & – 4411P
from bis(aminostyryl)pyridines – 9132
from thiophene derivatives – 1611
heat-curables
—cyanates/allyl ethers & – 1715P
—diphenyl compounds (unsatd)/stabilisers & – 5753P
—epoxy/novolacs & – 7381P
of siloxanes diamines – 6527P
photocurables, polymerisables etc & – 8788P
polyimides
— 8132
—from siloxanes (amino-functional) etc & – 4139P
polymers, with alkenyloxy-aniline/allyloxyphenylmaleimides – 907P
powder coatings, epoxies/anhydrides & – 9244
prepolymers, coatings, epoxies & – 3583P
products
—with allyl, cross-linking higher temp – 2849
—with ethynylanilines – 5033P
synthesis/thermal stability – 3290
synthesis/thermogravimetry, various diamines – 9126
Bismuth Compounds
catalysts, polyurethane compsns – 4106P
Bismuth Molybdate Vanadates
coated
—by oxides/waxes – 11P
—stability (thermal) – 11P
Bismuth Vanadate
calcination/milling/aq alkali treatment – 7964P
Bisphenol A
acetates, photolysis, reactions/products – 9421
alkoxylated
—acrylates, photopolymerisables – 2152P
—acrylates, radiation-curables – 621P
—acrylic/urethanes – 1622P
—polyesters, coatings – 9504P
brominated, intumescent coatings – 1108
determination, in powder coatings particulates – 2885
discolouration, colour measurement – 8928
ethers, with aminophenols, polyimides from – 4108P, 4157P
glycidyl ethers
—cycloaliphatic on methylene – 2423P
—oligomers, synthesis/two-stage – 1565
products
—with epoxies, amines & – 227P
—with glyoxal, polymers (ladder) – 845
reaction, with melamine/formaldehyde – 2444
recovery, from product streams – 792P
statistics (US), exports – 3043
synthesis
—plants (new)/plans, Brazil – 7860
—plants (planned) – 9963
Bisphenol AF
hydrogenation, dicyclohexylpropanes (fluorinated) from – 1494P
Bisphenol S
See also diphenyl sulphones (hydroxylated)
Bisphenols
alkoxylated
—acrylates (polyfunctional) – 9896P
—printing inks (lithographic) – 9300P
—products with castor oil – 9489P
allyl ethers, synthesis – 3241
blends, synthesis, low m.p./difficult crystallisation – 9016P
brominated, alkoxylated, urethane prepolymers from – 1111P
chlorinated
—derivatives, phosphonates, flame retardants – 3549
—phosphonates, flame retardants – 3549
diols containing, polyurethanes from – 8131
ethers, propargyl groups – 6445
formaldehyde resins, acrylates – 8808P
from dienes/phenols – 5729P
halogenated
—curing agents for epoxies – 8103P
—polyesters (unsatd) – 8082
hydrogenated, products, emulsifiers – 61P
modified, acrylic/urethanes, photocurables – 8770P
polyethers, from halobenzenes/hydroquinone & – 2420P
polyethers (halogenated) from – 1604P
polymers, amines units & units of – 4332P
products, with triazines (chlorinated) – 4957
Bitumens
See also gilsonite
anticorrosives, epoxies/mica & – 2710P
compatibility, with preservatives/coatings – 6959
coverings, for roofs, tests/modification – 8171
fumes, carcinogenicity – 7022
Bituminous Coatings
corrosion inhibitors – 6533
pipes, bacteria &, effects – 9514
standards
—performance/marking requirements – 3940
—water (drinking) contact – 4776
terracotta simulation, latices/fillers etc – 6817P

Bituminous Compositions
additives, phophorous acid/amines etc products – 3330P
adhesion, polymers (carboxylated) – 9186P
emulsifiers, polyamines (modified) products – 6534P
flow resistance, block copolymers – 1644P
polypropylene, disulphides/oils etc & – 9500P
stripping resistance, heterocyclics/amines products – 933P
Biuret Groups
cross-linking agents, electrocoating (cathodic) – 8229P
determination, allophanate groups & – 4490
epoxy/phenolic resins (modified) – 4089P
polyisocyanates
—from diisocyanates, processes – 1618P
—polyisocyanurates & – 4114P
polyurethanes, synthesis/characterisation – 4522
Biurets
exposure, lungs function – 2048
BJN Australian Holdings Ltd – 2204
Bladders
cancers of
—artists – 2959
—tetrachloroethylene – 3776
Blanc Fixe
See barium sulphate
Blast Cleaning
abrasives
—comparison, contamination produced/profiles – 2634
—selection – 4267
—slag (copper) – 9369
—various mixtures, coatings/corrosion resistance – 7491
air (compressed), equipment/techniques/various uses – 1729
degree, standards – 1725
factors/optimisation – 8351
pipes (water), in situ – 9350
steel, versus abrasion, cathodic disbonding & – 9429
stone, methods – 9364
wastes (hazardous), recycling/treatment – 7056
wet, water jets, ultra high-pressure – 9354
Blast Furnaces
pipes, coatings – 1769
Blasting
abrasives
—carbon dioxide (solid) – 1757
—factors/testing – 5881
—health/environment/post-treatment – 5883
—plastics – 1757
—plastics media – 6679
—plastics media/paint stripping – 5894
—selection/dusts/importance – 9346
—slag (mineral, heat-treated) – 3449
—steel grit/recycling – 1730
—urea resins (modified) – 2643P
cabinets, selection guidelines – 9363
combination, with primers – 5140
comparison, with rust converters/stabilisation – 9409
compressed air considerations – 9363
equipment (portable), abrasives recycling – 1730
glossaries – 9363
hazards/precautions – 5356
history/developments – 5865
moist, rust conversion primers & – 300
safety, dusts/noise/equipment – 7038
sand, respiratory protection, standards problems/misuse – 3768
ships' hulls, equipment, dry docks – 1733
vacuum, equipment (proprietary)/use – 7501
wet
—abrasives, urea resins (modified) – 2643P
—corrosion before coatings, studies – 2695
—equipment/water consumption/inhibitors/costs – 1737
Bleeding
plasticisers, coatings resisting – 443P
resistance, conductive coatings – 3594P
Blistering
anticorrosives, micro-organisms – 8456
avoidance, thick coatings drying – 7621P
book chapters – 744
cathodic protection & – 2670
chloride ions, cations effects/mechanisms – 377
coatings, for plastics, substrates stoving emissions – 6789
electrochemical measurements – 351
electrochemical measurements/under film solutions – 388
gel coats, formulation & – 6807
impedance spectroscopy – 5906
moisture-curables, in curing, prevention – 6420P
paper coatings, reduction – 4392
resistance
—acrylamide copolymers (substituted), of dienes – 7344P
—plastics (reinforced)/gel coats/barrier – 6791
spatial distribution – 8409
water-bornes, stoving – 2539
weathering (accelerated), immersion, cyclic versus continuous – 9430
wood shingles substrates, avoidance – 314
Blisters
detection, lasers scanning systems – 937
Block Copolymers
acrylics, ammonium (pendent) – 8658
adhesives, book chapters/formulation – 8248
adhesives (hot-melt)
—compatibility with waxes – 3374
—polyurethanes & – 8270P
adsorption, on silica, NMR (deuterium) – 6966
anti-misting coatings, hydrophilic/hydrophobic – 7620P
benzimidazoles/benzoxazoles – 163
blends, with graft/block, mechanical properties – 2842
book chapters – 5598
butadiene, epoxy groups, anticorrosives – 3494P
carbonates (cyclic)/lactones, mixed joining blocks – 1559
chain segregation, microphase/micellisation, review – 2009
compatibilisers, for polymers – 797
dienes, adhesives (hot-melt) – 985
dienes (conjugated)
—optional hydrogenation, bituminous compsns – 1644P
—polymerisation presence – 4405P
electron microscopy, element specific – 6984
grafting, with isoprene/ethylene oxide – 4895
isoprene, adhesives (radiation-curable) – 1689
isopropenylpyridines, synthesis/characterisation – 544

Block Copolymers *(continued)*
ladder, synthesis, polymerisation (group transfer) – 4059
micelles (core/shell), fluorescence studies – 1253
neutron scattering (small-angle) – 6103
particles (core/shell), cross-linking/suspensions/shape – 8670
polyamide-imides/siloxanes – 4981P
polycarbonates, synthesis via benzoin ether links breaks – 4629
polycarbonates/flame retardants & – 1110P
polyether-esters, analysis, pyrolysis/GC – 6095
polyether-ketones/liquid crystals – 9090P
polyether-ketones/polyesters – 9090P
polysulphides/polyether-imides – 927P
pressure-sensitive adhesives, styrene polymers (hydrogenated) & – 9280P
rheology (oscillatory) – 4466
siloxanes
— 4974, 5768P, 6422P
—adhesives, to surfaces – 5830P
siloxanes (ladder)/siloxanes – 8162
siloxanes/polysulphones, phase separation – 891
solutions, phase separation (microphase) – 5675
star, styrene/isoprene, hydrogenation/sulphonation – 2380
styrene
—adhesives – 1698P, 2587P
—plants/joint ventures – 3910
styrene & ethylene/butylene – 3374
styrene/olefins – 5936P
surfactants (polymeric), mechanisms/advantages – 4869
synthesis
—dithiocarbamates groups (terminal)/monomers – 4644
—from anions/cations – 4026
—heterochain systems, review – 4022
—methods – 2369
—monomers/carbonyls/halogen-terminated polystyrene – 4024
—polymerisation (anionic), ring opening – 2514
—polymerisation (cationic) – 4100
—polymerisation (group transfer) – 85, 4008
—polymerisation (group transfer)/initiators (polyfunctional) – 852
—polymerisation (precipitation) – 3172
—propagation transformation, review – 4026
synthesis/morphology – 4894
thermosetting elastomers & – 2778P
Blocking
agents against, paper coatings – 6792
resistance to
—diisocyanates/active hydrogen products – 1517P
—fast-drying coatings/printing – 277P
—fluoropolymers particles – 1503
—powder coatings – 431P
—water-bornes – 956P
—water-bornes, acrylics/hydrazides – 6551P
Blocking Agents
silanes (unsatd), for siloxanes Si-H – 1641P
Blood
erythrocytes, ethanol/toluene exposure – 2107
erythrocytes haemoglobin patterns, aromatics exposure – 9795
formaldehyde in, levels, low exposure & – 2063
lead in
—determination, matrix decomposition/voltammetry – 9691
—levels (UK) – 4689
—monitoring, – 1986/UK 2069
—prediction/zinc protoporphyrin – 3765
metals (trace) in, determination, review – 1230
trichloroethylene in, effect other chemicals – 2086
Blooming
flame retardants, organo-phosphorus – 1112P
Blowing Agents
See also intumescent entries
Board
See also panels, decorative board & paper board
barrier coatings etc, against formaldehyde emissions – 4415
binders, polymethylene polyphenyl isocyanate/polyester polyols – 9151P
cement, coatings, acrylics – 2789P
coatings
—binders (org/inorg)/aggregates – 7618P
—diene copolymers (carboxylated) – 7594P
—latices, insolubilisation/wet strength – 4395
—proteins (carboxylated), soyabeans – 4393
inorganic, surfacer compsns (water-borne) – 953P
ultraviolet-curables – 5414
white, writing inks (water-borne) – 5070P
Boats
See also ships
antifoulings
—organo-tins, regulations – 4768
—regulations (European) – 4740
gel coats, copper powders/fouling control – 5962P
painting, several colours/vapour curing – 6641
Boero Bartolomeo SpA
marine coatings, joint ventures – 9936
Bond Strength
adhesives
—galvanised steel spangle minimisation & – 373
—isoprene polymers/additives – 3382P
adhesives (acrylic) – 9638
determination
— 5042
—adhesives – 3946
—indentation disbonding – 495
road marking compsns, determination – 8932
Bonding
See also hydrogen bonding
copper/laminates – 6823P
copper/printed circuits etc – 6824P
non-wovens, polymers (self-crosslinkable) – 1693P
polymers/silica/calcium oxide/fly ashes etc – 1716P
polypropylene, to steel, plastics pretreatment – 5868
rubber, to steel, primers & – 3599P
Bone Marrow
ethylene glycol monomethyl ether, residual effects – 4587
Books
binding, adhesives – 8259
Booths
See also spray booths
Borates
antioxidants, hydroperoxides decomposition – 7277
biocides, for stone – 3520
chromating – 5107
coatings, epoxies/siloxanes/chelates & – 1806P
insects control – 9526P
organic, biocides, various – 419
products, with amines – 8534P
wood preservatives (water-borne), flame retardance – 7584P

Borden (UK) Ltd
quality assurance, BS
standards/approval/measures – 2034
Borden Inc
businesses exchange, with National Starch – 7161
Boric Acid
acid promoters, silanes & – 327P
filling compsns, termites resistance – 9883P
insects control – 9526P
Boric Oxide
coatings from, & silica, on pigments – 2272P
Boron
wood preservatives, plugs – 3506
Boron Compounds
catalysts, polymerisation (cationic) – 1546P
coatings, for reactors – 827P
stabilisers – 7325P
vapours, wood impregnation – 5956P
wood preservatives – 1092
Boron Trichloride
copolymerisation (alternating) presence – 8064
Boron Trifluoride
catalysts, epoxies curing – 7317
complexes
—curing with, epoxies/thermal properties – 4907
—epoxies/bismaleimides & – 4411P
—with diamines, curing accelerators – 1577P
curing agents, for epoxies, isocyanates for faster – 6460P
Boronates
antioxidants, hydroperoxides decomposition – 7277
Borophosphates
water-bornes – 9224P
Borosiloxanes
adhesives, for copper/metals bonding – 1002P
adhesives (heat-resistant) – 9279P
anticorrosives, heat resistance – 5175P
antifoulings, heat resistance, antifoulants & – 3492P
coatings, oxides/nitrates &, infrared emission – 5237P
electrical insulation – 2751P
heat-resistant coatings
— 3595P, 4448P
—two/three layers – 6022P
powder coatings – 5036P
water-soluble – 2750P
wire coatings, heat resistance – 4374P
Bottles
caps, primers before inks – 2802P
composites on, films (orientated)/adhesives/release layers – 7613P
glass, transparent coatings, quality control etc – 6672P
plastics, barrier coatings – 5984P
Boxes
See also paint boxes
BP Chemicals
acetic acid/acetic anhydride, plants plans – 9956
joint ventures, maleic anhydride/Cepsa – 7859
polyols, businesses transfer to Dow – 4720
BP Chemicals America
joint ventures, with Mitsui Toatsu – 2198
Brains
See also central nervous system, neuropathy & neurotoxicity
cancers, organo-chlorine compounds/solvents – 2068
solvents
—blood flow levels – 7021
—printing – 7039
styrene, astroglial reactions – 7774
toluene
— 2089
—electroencephalographic activity – 2102
trichloroethane – 2103
Brake Pads
powder coatings, application, lines/automation – 3438
Brass
degreasing – 5870
Brent Chemicals
acquisitions by, of Metprep – 685
Breweries
maintenance painting, blasting (vacuum) – 7501
Bricks
ground, marble effects – 8524P
water-repellent coatings – 480P
Brickwork
coatings – 5990
Bridges
anticorrosives, Japan islands links – 1853
cementitious compsns, corrosion resistance – 1805P
concrete, survey/deterioration causes/maintenance etc – 5929
concrete (reinforced)
—anticorrosives (water-borne) – 3494P
—potential mapping/corrosion – 7527
corrosion/maintenance – 8396
decking, polyurethane coatings (two-component) – 4110P
lead-containing paints, stripping, problems/measures – 3439
maintenance painting, problems – 7548
maintenance paints (water-borne) – 3463
paint systems, most common – 303
painting, specifications (USA) survey – 303
polyurethane coatings, testing/systems – 1051
San Francisco, corrosion/control – 9449
steel
—maintenance, moisture-curables, zinc dust/urethanes – 5133
—zinc dust paints/acrylics – 1763
vibration, coatings against – 2801P
Brighteners
See also fluorescent brighteners
Brightness
luminous efficiency functions, stimulus duration – 3613
matching
—chromatic adaptation – 8569
—stimulus duration/wavelength – 3613
British Petroleum Co
divestments, mineral assets – 3915
Briton Chadwick Ltd
name changes, to Acorn – 6290
Bromine
brominating agents (polymeric) – 2279
compounds containing, ozone layer/agreements – 9819
Bromonium Salts
photoinitiators, rearrangement reactions/homolysis/heterolysis – 9831
Bromotrifluoroethylene
copolymers, electrocoating – 954P
Bronze
pigments (metallic), inks – 8289

Bronzing
metallic effect, materials/techniques – 5099
Brookfield Viscometers
See viscometers (Brookfield)
Brushes
application by
—alkyds (water-soluble) – 5796P
—selection/techniques – 7481
—spreading rate – 7214, 7215
cleaning, products (proprietary), 'Which?' surveys – 2536
for painting
—bristles materials/shapes etc – 4280
—cleaning equipment – 9391P
—cleaning, funnels – 9390P
—covers for ferrules, against handle fouling – 8363P
—manufacturers (UK) – 6290
—market (UK), rollers etc & – 9921
—statistics (UK)/exports/imports – 1340
—types/uses/care – 6648
—used, storage/cleaning sachets – 330P, 331P, 5127P
for water-bornes – 4280
Bubbles
shapes/coalescence, non-Newtonian solutions, photography – 3725
Building Industry
See also construction(s) entries
Building Materials
acid deposition, effects – 2697
adhesives, bonding to silicone-coated/-sealed substrates – 9287P
air pollutants, UK/effects – 7057
biocides
—metals (heavy) – 5171P
—testing – 1096
—testing/methods – 412
calcareous, cleaning/conditioning – 4450P
certification, EEC schemes/US impacts – 8655
coatings
—discolouration inhibitors – 4881P
—isocyanates (blocked)/polymers – 8551P
—natural effects, microflora promotion – 9522P
—silanes/water/catalysts – 8530P
—types/physics/defects/protection etc – 3567
—vinyl acetate/methyl methacrylate copolymers – 8105P
consolidation, xylylene compounds polymerisation – 283P
directories (UK), services & – 4801
electromagnetic shielding, fire resistance – 6837P
fire, tests/standards (BS) outlines – 5591
formaldehyde, emissions, chamber methods – 6202
impregnation/silicate paints – 363
metals (sheet), weldable coatings – 2711P
permeability, water vapour – 6344
polyurethane coatings (moisture-curable) – 8134
sealants, fatty acids/hydroxides – 6619P
treatment, cleaning/honing etc/moisture-curables – 6673P
water-bornes
—acrylics/insoluble polymers – 4189P
—aluminoborophosphates/wastes etc – 9224P
waterproofing, dispersions (aq) – 4352P
Building Research Establishment
fire etc testing – 9947
Buildings
See also facades
acid deposition, effects – 2697
algae, tropical conditions, & control – 3526
cellars, painting – 301
cleaning compsns, spraying (compressed air) – 8355P
coatings
—acrylics/monomers/mica etc – 9488P
—epoxies/silicon-containing curing agents – 3500P
—low-solvent – 453
—manufacturers (Italian) acquisition – 6303
—potassium silicate – 8313
—siloxanes (unsatd) copolymers – 8446P
—statistics (Italian) – 7130
—statistics (Swiss) – 4696
commercial, leases, legal position Europe – 9986
condensation, sheets against – 5999P
domestic
—air pollutants, complaint-free – 4620
—coatings, acrylics/polyisocyanates – 9484P
—dusts, adsorption on – 4564
—fungi, moisture requirements – 6759
—gamma-rays/radon, surveys (UK) – 576
—inspection, dampness – 3501
—lead-containing paints, stripping/dusts – 2119
—lead/dusts – 2976
—maintenance, expenditure (USA) – 3044
—painters, lead poisoning – 2966
—strippable coatings, antimicrobial activity – 4333P, 4334P
—vapours (org), exposure – 3784
exteriors, silicones/siloxanes/proprietary – 5922
fire
—regulations/flame-retardant coatings – 4386, 6782
—regulations/standards/wood/protection etc – 4383
fungi
—control, materials/technologies development – 7577
—wet rot, types/control – 7564
historic, lead-containing paints, EEC directives (draft) – 4766
maintenance painting, paints selection – 8504
micro-organisms
—biodegradation/corrosion – 7576
—health hazards/precautions – 5380
moisture, problems/repellents – 5902
offices/shops, health & safety, regulations (UK) – 7206
old, restoration, powder coatings – 4199
sealers (water-borne) – 8547P
shingles, renovation – 314
sick building syndrome – 1278, 5374
strips, steel (coated) etc, uses – 3573
water-bornes, powders dispersible to form – 1667P
wooden, old, degradation processes – 8453
Bumpers
See also automobile bumpers
Buses
See omnibuses
Butadiene
block copolymers, epoxy groups, anticorrosives – 3494P
carcinogenicity/mutagenicity/reproductive systems – 2950
dimers, copolymerisation, comonomers/hydrogenation – 3158P
emulsion polymerisation
—initiators, types/kinetics/mercaptans – 834
—initiators/rosin derivatives, kinetics etc – 6439
—styrene &, presence seeds – 4898

Butadiene *(continued)*
exposure limits – 2943
products, butanediols/tetrahydrofuran, processes – 3140
silyl groups, maleimides & – 2782P
TLV, ACGIH documentation – 7044
Butadiene Copolymers
epoxidised, of vinylidene chloride, coatings – 9197
Butadiene Polymers
coatings, on fillers – 5627P
DSC, copolymers/statistical/block/homopolymers – 8062
graft copolymers, water-bornes, air-drying compsns – 950P
isocyanate groups (terminal), synthesis/reactions – 894
oxidation, coatings binders by – 3210
stabilisers, for dispersions (aq) – 224P
Butadiene/Acrylonitrile
See nitrile rubber
Butanediols
acrylates, photopolymerisables, optical discs – 2131
polyether-urethanes – 2464
synthesis, from butadiene – 3140
Butanediones
photosensitisers – 1298
Butanetetracarboxylic Acids
polyamide acids, electrocoating – 5793P
Butanol
determination, in paints, GC – 6938
penetrants, chromating – 4288P
photo-oxidation, on titanium dioxide – 1464
Butanone
See methyl ethyl ketone
Butyl Acetate
exposure, to mixtures, tolerance ranges – 6186
prices – 3045
Butyl Acrylate
copolymerisation, miniemulsions, co-surfactants role – 3228
emulsion polymerisation
—copolymerisation, hydrazyl effects – 6432
—emulsifiers blends/comonomers – 3281
emulsion polymerisation (seeded) – 819
latices, interfaces – 3621
photopolymerisation, kinetics/conversion/diffusion/termination – 8755
polymerisation (anionic), alkoxides effects – 4054
polymers (cross-linked), latices (core/shell) – 2332
reaction, with amines, kinetics – 3138
reactivity ratios – 3222
sampling/GC – 9674
Butyl Acrylate Copolymers
carboxylated, carboxyl groups location/interfacial layer thickness – 1240
of methacrylamide (substituted) – 8218P
synthesis, latices (monodisperse) – 8197
Butyl Chloride
solvolysis, ultrasonics & – 3139
Butyl Isocyanates
cyclotrimerisation, catalysts/kinetics – 5748
Butyl Methacrylate
emulsion polymerisation
—kinetics – 819
—presence inhibitors (oil-soluble) – 6441
polymerisation (group transfer)
—kinetics etc – 4043
—reactivity ratios – 6434
sampling/GC – 9674
Butyl Rubber
adhesives, waterproofing sheets – 9289P
epoxidised – 3205
properties/adhesives – 8251
sealers – 3411P
sealers/waterproofing – 288P
water-bornes, petroleum resins & – 951P
Butyl Vinyl Ethers
See vinyl butyl ethers
Butylene
block copolymers, styrene & ethylene/butylene – 3374
hydroxylated, vinyl ethers – 1146P
substituted, hydroxyl groups etc – 8113P
Butylene Copolymers
adhesives (hot-melt), polypropylene & – 8268P
blends, polybutylene/tackifiers & – 9258P
Butylene Oxides
carcinogenicity – 4577
respiratory systems – 4577
Butylene Polymers
adhesives (hot-melt) – 6583
blends, adhesives (hot-melt), tackifiers & – 9275P
Butylphenol
toxicology, toxicity/irritation – 2955
Butylphenol-Formaldehyde Resins
butylphenols/phenols, resists – 3016P
dermatitis – 559
Butylstyrenes
emulsion polymerisation
— 3185
—latices nucleation – 9049
Butyltin Compounds
determination, methods – 4613

C

C.I. Solvent Yellow 56
crystal data/X-ray diffraction – 7240
Cabinets
steel, manufacturers (Indian), finishing – 5094
Cables
armoured, coatings/corrosion resistance testing – 9411
coatings
—ethylene copolymers (halogenated)/cross-linking – 5228P
—fungicides/flame retardance – 430P
—intumescent – 5970P
post-tensioning, powder coatings – 257P
sheathing – 3546
undercoats, polyketones/polysulphones – 6838P
underground, anticorrosives, bitumens/polypropylene – 9500P
Cadmium
carcinogenicity – 564
determination
—in blood etc – 1230
—in polyvinyl chloride, AAS – 1211, 9660
—in water (sea) – 532
—laboratories comparison – 1936
—lobsters/MS – 1986
—quality control samples – 7677, 7695
epidemiology – 564
exposure, rats (pregnant) – 9776
health & safety – 7220
migration, toys, determination/limits – 8940
monitoring (biological) – 4503, 5599

Cadmium *(continued)*
neurotoxicity, central nervous system – 7755
paints, regulations (UK) non-compliance – 1268
soluble, toys, testing/limits – 3944
toxicology – 564
Cadmium Acetate
exposure, vitamin E/ascorbic acid levels – 7037
Cadmium Chloride
carcinogenicity, review – 9762
Cadmium Pigments
manufacture, aluminium/sulphur/selenium/zinc – 7975P
Cadmium Sulphide
photoactivity, glycol ethers & – 6377
Caesium Compounds
coatings, lightning & – 8520P
treatment with, epoxies – 4068P
Cakes
filtration, permeability – 2615
Calcite
See also calcium carbonate
calcium carbonate in, determination – 9996
standards – 9995
Calcium
determination, flow injection analysis/AAS, interferences avoidance – 5277
Calcium Borate
fire retardants, aluminium hydroxide & – 8483P
Calcium Borosilicate
anticorrosive pigments (proprietary) – 1454
Calcium Carbonate
See also calcite, chalk, limestone & marble
acicular, high-build coatings enabling – 949P
anticorrosives, chromates/silicochromates replacement – 7949
aragonite
—from hydroxide – 5630P
—manufacture presence additives – 4837P
catalysts (polymer-supported) on – 9060P
coated, abietic acid, for water-bornes – 1704P
coatings, sulphurous acid effects – 3760
determination, in calcite – 9996
dispersants (polymeric) – 4002P
dispersions (aq), dispersants blends – 3126P
emulsion paints
—extraction by sulphur dioxide – 4326
—sulphur dioxide exposure – 9723
films, anticorrosive effects – 5138
fine, manufacture, particle size control, seeds – 3125P
light scattering, titanium dioxide & – 6967
manufacture
—presence polyphosphates – 6393P
—via magnetic field treated water – 6393P
markets/producers/statistics, America/Europe – 7937
modified, by maleic copolymers – 3120P
natural
—companies (US)/uses – 8844
—purification – 3971P, 3972P
—standards – 9995
paper coatings
— 3124P
—cohesion – 6038
—sericite & – 444P
powders, sphericity levels/manufacture/water retention – 2273P
powders (fine), from slag cooling water – 8990P
producers, Australia – 7937
silicate paints – 762
slurries – 1575P
substrates, treatment with fluosilicates – 6732
treated
—silicate paints – 762
—zeta potential (positive) – 1479P
waste containing, pigments (black) – 4836P
waterproof coatings, formulation/particle size – 2515
Calcium Chromate
carcinogenicity, review – 9762
Calcium Compounds
carboxylates, anticorrosives – 8977P
layers, on rebars, corrosion resistance – 9475
Calcium Fluosilicate
films, on marble, from cleaning/conditioning – 4450P
Calcium Magnesium Carbonate
See also dolomite
Calcium Oxide
curing accelerators – 197P
Calcium Phosphate
adhesives, chariots (historical), China – 4219
Calcium Phosphosilicate
anticorrosive pigments – 1454
Calcium Plumbate
anticorrosives, barrels hoops – 1098
Calcium Silicate
See also wollastonite
Calcium Stearate
powders, explosions, explosive potential – 2112
Calcium Sulphate
dispersions, dispersants/colloids (protective, cationised) – 8989P
fillers, grinding – 8974
grinding, in suspensions without surfactants – 778P, 779P
Calcium Zinc Phosphate
primers, phenolics & – 3599P
Calibration
atomic emission spectrometry – 3677
colorimetry, video digitising systems – 490
flow cups – 2826
GPC
— 1903, 1904, 1952, 3099, 9657
—epoxies (branched) – 6114
—light scattering (small-angle) – 5287
particle size distribution determination – 3731
universal
—GPC, copolymers/equations – 1901
—GPC, low MW – 6949
viscometers, importance – 6872
Calorimeters
heat transfer coefficients, & scale-up – 295
Calorimetry
pigment dispersions, pigments/additives interactions – 6986
Cameras
plastics, textured coatings – 4398
video
—colorimetry – 490
—images/bar graphs combination – 7783
Camouflage
coatings
—gloss & – 3608
—specifications – 3608
—weathering/soiling/cleaning – 5146
infrared/visible – 7237
paints, gloss assessment – 6028
pigments – 7237

Campanhia de Industrias Quimicas
joint ventures, maleic anhydride – 681
Cancers
automobiles repair – 5363
furniture workers – 9783
lymphomas, risk factors – 9789
metal-workers, cutting fluids & – 1277
of bladders
—artists – 2959
—tetrachloroethylene – 3776
of brains, organo-chlorine compounds/solvents – 2068
of kidneys
—hydrocarbons, histopathology – 5373
—tetrachloroethylene – 3776
of livers, solvents, women/men – 3769
of lungs
—asbestos – 5369
—cadmium – 564
—epichlorohydrin workers – 6175
—formaldehyde – 2110
—silica – 7768
of respiratory systems, chloromethyl ethers – 4608, 6174
of skin, printing industry – 2960
ozone layer depletion, counteraction troposphere increases – 9821
paint manufacture, epidemiology, review – 9797
painters
— 4584
—epidemiology, review – 9797
vinyl chloride, polymerisation plants – 8722
Canola Oil
printing inks, newsprint – 3396
Cans
aluminium, coatings, polyesters (unsatd) – 7626P
coated, cathodic disbonding – 376
coatings
—epoxies (modified) – 2402
—epoxies/melamine, curing/mechanical analysis 2908
—epoxy phosphates/flexibility – 8510
—epoxy/phenolics etc – 4427P
—manufacturers (World)/reorganisation – 6317
—manufacturers acquisition (Spanish) – 3914
—vinyl chloride polymers/epoxies etc – 4449P
corrosion – 3477
drawing
—coatings before/curing after – 3585P
—coatings tolerant to – 4449P
—tolerance to, epoxies – 3600P
electrocoating
—equipment (high-speed), cans removal – 1747P
—equipment (high-speed), interiors/exteriors – 1746P
—multi-cell high-speed – 333P
exteriors of
—coatings/smoothness retention boiling – 6847P
—resins/siloxanes – 6847P
—water-bornes, acrylics/amino resins etc – 4197P
—water-bornes, acrylics/polyethers – 4196P
—water-bornes, epoxies/acrylics – 9219
—water-bornes, heat resistance – 3357P
for aerosols
— 7605
—transport regulations – 5588
for emulsion paints, corrosion inhibitors – 2682
for food
—aluminium alloys/epoxies – 7604
—regulations (Italian) – 3923
—spin necking, coatings etc tolerant to – 3572
—ultraviolet-curables/components transfer to interior – 5407
—water-bornes, epoxy/polyesters – 4180P
for liquids (flammable)
—fire codes – 5398
—market enhancement/fire codes – 4628
for paints
— 8748
—metals versus plastics – 7063
—packaging design, labels – 5519
—pouring spouts attachable to – 7503P
heat-curables, topcoats, polymers/silicone oils/polyethylene – 5229P
interiors of
—epoxies & resoles/amino – 470P
—epoxies/formaldehyde products – 1150P
—epoxy/phenolics, tainting resistance – 5251P
—water-bornes, epoxies (modified)/polymers – 238P
—water-bornes, epoxies/acrylics – 9219
—water-bornes, epoxy/acrylates (modified) – 7397P
—water-bornes, history/companies etc – 8202
—water-bornes, microgels – 9225P
lubricating coatings
— 4453P
—silicones (bound) at surfaces – 1175P
—silicones/waxes products – 5030P
manufacture/finishing, emissions/reduction – 8724
painting, plants/automation – 7485
printing inks/varnishes for – 6602
seams, repair, powder coatings/heating (induction) – 5038P
steel (nickel-coated), ultraviolet-curables, infrared first – 5424
tinplate, sheets, coatings, epoxy/phenolics – 5252P
transparent coatings, acrylics – 2797P
ultraviolet-curables, application/properties, situation – 5407
water-bornes
—epoxies (modified), by amino acids – 2544
—epoxies/polymeric dispersants – 5031P
—vinyl chloride polymers/epoxies – 975P
Capacitors
electrocoating, acrylics – 5784
Capric Acid
chlorination – 789
Caprolactam
derivatives, unsatd, copolymers, antifoulings – 3537P, 3538P
products, ketimines (cyclic)/amino groups – 3991P
purification, pigments from wastes – 4834P
substituted, allylamino groups – 51P
Caprolactones
acrylates, adhesives, elastomers/peroxides & – 9278P
block copolymers, mixed joining blocks – 1559
derivatives, acrylates, products with maleics – 4653P
polymerisation (anionic), kinetics – 2394
products
—with cellulose derivatives – 2509P
—with cellulose, silanes groups – 2708P
Carbamates
diluents (reactive)
— 6544P
—surface activity/high-solids coatings – 3346P

Carbamates *(continued)*
groups
—melamine resins – 8133
—polymers, antifoulants – 8474P
hydroxylated, high-solids coatings – 7382P
polyols/diols blends, compatibility by – 9092P
synthesis, from carbon dioxide – 8002
unsaturated, acetals groups, cyclisation/polymers/cross-linking – 6502
wood preservatives, dioxolanylmethyltriazoles & – 2737P
Carbazoles
groups
—pendent, siloxanes, photoconductivity – 4120
—propargyl, polymers/photoconductivity – 9171
—siloxanes, electrochemistry/colour changes – 8574
Carbenes
from azo, products with polybutadiene – 8074
Carbenium Ions
initiators
—methoxyphenylmethylium – 3234
—triphenylmethane co-initiators – 94
Carbodiimides
coatings
—in situ reaction carboxylic (unsatd) – 4424P
—polyamic acids blends & – 8478P
isocyanate groups (blocked), heat-curables – 2448
Carbohydrates
adhesion promoters, silanes & – 8032P
epoxy/carbohydrate oligomers – 9259P
transacetalisation, of diethoxyethylphosphonates – 3309
Carbon
See also 'carbon, activated'
organic, monitoring, effluents – 8647
sputtering, plastics pretreatment – 5886P
Carbon Black
adhesives (epoxy) – 5827P
conductive coatings etc, content/properties/temp – 2252
conductive compsns, binders emulsions & – 9590P
conductivity (electrical) – 2252
dispersions
—coupling agents, titanoxanes – 9044P
—dispersants – 8993P
dusting – 5313
dusts, hazards – 733
electrocoating, stoving then electrocoating over – 2549
FTIR (photoacoustic), depth profiling – 4515
grafting
—by reaction polymers (functional) – 4843P
—carbon black/polymers reaction – 33P
—with polymers (epoxy/episulphide groups) – 4842P
granules, from coal – 24P
manufacture
—cooling/drying etc, heat exchange steps – 782P
—reactors modelling (generalised) & – 6
—reactors/processes – 7978P
—tinting strength (lower) – 5623P
—water consumption reduction – 782P
oxidation presence, sulphur dioxide – 4525
pastes, manufacture – 1489P
pigment compsns, sulphonics &, drying (spray/freeze) – 2268P
writing inks, polyvinyl butyral & – 4241P
Carbon Dioxide
absorbents, polyurethane coatings – 169P
absorption, & effect on absorption others – 8654
barrier coatings – 1848
carbamates from – 8002
diffusion, in polymers – 4554
fluid, solvents removal by – 4092P
liberation, tempera paints – 8545P
liquid, purification by – 9164P
solid, abrasives for blasting – 1757
sorption, films expansion – 7738
sorption/permeation, polymers blends – 6121
supercritical fluids
—purification by – 9164P
—spraying paints with – 8337
Carbon Fibres
GC (inverse), coupling agents, acid/base interactions etc – 1915
heat-curables, cyanates/maleimides/allyl ethers – 1715P
heat-resistant coatings, polyether-imides (aromatic) – 9609P
manufacture, review – 3957
road marking compsns (hot-melt) – 1871P
Carbon Monoxide
adsorption, on titanium dioxide – 9733
monitoring, diffusive samplers evaluation – 7668
polyesters, synthesis, catalysts/reactants – 9089
products, acrylates – 7270P
Carbon Tetrachloride
toxicity, acetone/trichloroethylene with – 2949
Carbon, Activated
adsorption by
—FTIR (in situ) analysis – 4521
—solvents recovery – 4611
adsorption on
—sampling, diffusive samplers – 1431
—sampling, vinyl chloride – 1435
—volatiles (org) sampling – 1426
—volatiles (org), GC – 1427
carbonaceous material, from novolacs/cottonseeds – 2036
cloth, monitoring expired air – 5284
desorption from
—by solvents, sealed vials – 5276
—solvent blends components – 4499
from phenolics/olive stones – 2035
layers, between fluoropolymers, anticorrosive coatings – 2700P
modified, surfaces, groups – 5337
spills treatment with – 1283P
surfaces, groups/modification – 5337
Carbonates
adhesion to, adhesion promoters – 3457P
anticorrosive pigments, phosphates (monobasic) & – 8984P
carboxylic acids determination presence – 1196
cyclic
—block copolymers, mixed joining blocks – 1559
—copolymers with lactones, tapered – 857P
—products with amines, curing agents – 9086
—synthesis/inks use – 9019P
difunctional, silyl groups, synthesis/repellents – 199P
fillers, review – 8972
groups, siloxanes (unsatd) – 3324P
plasticisers – 9257P
products, with diamines, polyurethanes – 8127
unsaturated, products with organo-tins – 918

Carbonation
coatings against – 1848
concrete (reinforced)
—book chapters – 7521
—coatings/testing (accelerated) – 6691
depth, determination – 7516
Carbonless Copying
See copying entries and recording entries
Carbonyl Compounds
unsaturated, photoinitiators, peresters & – 6233P
Carboxyl Groups
reaction, cyclisation – 5458P
Carboxylates
anticorrosive pigments, amide/sulphonamide groups – 8977P
catalysts, cyanoacetates groups cross-linking – 5652P
layers, printing plates – 8525P
reduction, borohydrides – 2859
Carboxylic Acids
acid/base equilibria, micelles & solvents/water – 6128
antifoulants, products with metal salts/polymers – 425P
branched
—glycidyl esters of, reactions – 8094
—glycidyl esters, polyesters from – 132P
—printing (ink jet) – 5837P
derivatives, chlorides, stabilisers – 1621P
determination
—GC/FTIR, oxygen-18 enriched internal standards – 2884
—GC/MS – 1223
—in glycols compounds – 9654
—in water presence carbonates – 1196
electrophoresis, separation/quantification – 6920
exposure limits, prediction – 9813
fluorinated, coatings, siloxanes/acids & – 9585P
halogenated, activators for strippers – 4295P
hydroxylated
—fused rings, salts, corrosion inhibitors – 4340P
—polyesters, functional groups, corrosion inhibitors – 1791P
—products vinyl alcohol copolymers – 8079
—products with epichlorohydrin – 4940P
NMR, hydrogen bonding – 2860
polyfunctional, derivatives, unsatd groups – 1670P
polyurethanes, from diisocyanates/alcohols etc – 9158P
scale etc removal, compsns – 8374P
synthesis, propylene oxide same time – 2289
treatment with, nacreous pigments – 3121P
unsaturated
—coatings, in situ reaction carbodiimides etc – 4424P
—di-/polyfunctional, photoresists – 9864P
—hexene polymers modified by – 9113P
—polymerisation presence urethanes – 4188P
—polymerisation, low residual monomers – 1580P
—polymers (hydroxylic) from – 7329P
—products with epoxies/polycarbonates products – 862P
Carboxymethylcellulose
ammonium, treatment with, & sodium/potassium salts – 9613P
ammonium groups (quaternary), antifoulings – 3532P
analysis, carboxymethylxylan content etc – 8633
block copolymer-type, xanthan gum mimics – 4474
calcium, determination on cellulose films – 4484
GC/MS, substituents distribution/carboxymethylation constants etc – 8633
rheology – 1898
silicate paints, thickeners (urethanes) & – 58
sodium
—determination on cellulose films – 4484
—polymerisation presence, acrylic monomers, properties & – 2417
—synthesis, cellulose sheets pulping/mercerisation – 1645P
—wood preservatives, self-skimming – 7584P
solutions, settling/fluidised beds – 3741
thickeners, silicate paints/other ethers & – 54
viscoelasticity (dynamic), salts effects, aq systems – 2834
Carcinogenesis
book chapters – 742
Carcinogenicity
acrylonitrile, studies, human epidemiology – 7012
aniline, studies – 4588
asbestos
— 2079
—amosite – 7035
—amosite, fibrosis & – 7014
—chrysotile/tremolite – 9764
—inhibitors – 9782
—review – 5369
benzene
— 2087
—exposure length/discontinuities – 9792
bitumens, fumes – 7022
butadiene – 2950
butylene oxides – 4577
chemicals (various), review for each – 9762
chemicals listed in reports on – 740
chloromethyl ethers – 6174
chromates – 1421, 3778
di(ethylhexyl) phthalate – 2075
dimethylformamide
—studies – 7779
—with/without acrylonitrile – 2065
dioxane – 4589
dyes – 2049
epoxies, studies – 569
formaldehyde
— 2110, 4582, 6183
—nasal mucosa damage contribution – 4610
isophorone – 4591
methylene chloride
— 3085
—mice/rats/humans, reports – 5361
mineral fibres (synthetic) – 9781
nickel, review, toxicology & – 4578
organo-chlorine compounds, solvents & – 2068
phthalates – 4809
risk assessment, modelling – 6194
silica – 7768
solvents, lymphomas – 567
solvents (halogenated), risk assessment – 6194
testing, lists of results – 740
tetrachloroethylene
— 3776
—mice/humans, discussion – 6185
—mice/rats relevance – 7751
thiram, studies – 8713
titanium dioxide, studies – 3766, 3780
trichloroethane, inhalation, studies – 8718
trichloroethylene, mice/humans, discussion – 6185

Carcinogenicity *(continued)*
vinyl chloride
— 8722
—epidemiology – 554
—studies – 558
wood preservatives/solvents – 2068
Carcinogens
classification, schemes – 9777
classification/French regulations, lists – 716
codes of practice – 2225
exposure limits – 2092
identification/assessment/regulations (US), books – 740
lists (German) – 4615
occupational, handbook sections – 7220
Cardanol
silyl ethers, hydrosilylation/hydrolysis, & phenolics from – 5765
Cardboard
corrugated, adhesives (water-borne) – 5829P
Carlyle Group
acquisition by, of Oakite products, attempts – 684
Carnauba Wax
emulsions, paper coatings – 6792
Carnaud
acquisitions by, of Metalbox Packaging – 1373
Carpets
adhesives, solvent-bornes replacement, & low solvent – 8255
Carrs Paints Ltd
joint ventures, vapour curing – 6291
Cars
See automobiles
Cartons
folding, coatings, types/application methods etc, US surveys – 5974
Casco Nobel
acquisitions by, of Arkol Srl/Italian restructuring – 3065
Casco Nobel AG
divestments, vehicles (motor) refinishing – 3906
Casco Nobel Srl
acquisitions by, majority Colorificio Valtramigna – 6307
Casein
electrical insulation
—fluoropolymers/latices etc & – 5187P
—latices/paraffins etc & – 1823P
powders, adhesives, standards – 1406
Caseinates
coatings, patina formation – 5574
Cashew Nutshell Liquid
coatings, for concrete, testing – 9465
condensates, urushi varnishes (modified) – 3159P
extraction, from cashew nuts – 6398
synthesis, processes/equipment/pollution control – 7986
undercoats, standards – 4783
Castor Oil
alkyds, from rosin & – 120
alkyds (chlorinated) – 435
epoxidised, products sulphur trioxide/nucleophiles – 8023P
flexibilisers, for epoxies, curing co-initiators – 8077
glycidyl ethers, epoxy esters from – 3259P
hydrogenated, dehydration, catalysts – 7987
hydrogenation, low pressure/low temp – 40
polyurethanes containing
— 9150P, 9489P
—interpenetrating networks – 818, 3292, 7289, 8049
—tubes coatings – 5162P
products
—with bisphenols (alkoxylated) – 9489P
—with diacids, interpenetrating networks – 3186
pyrolysis, heptaldehyde/undecenoic acid synthesis – 8998
sulphonated, pigment compsns – 8988P
Catalysts
acetoacetate groups/unsatd groups reaction – 4996
acids (org, solid) – 1492
acrylates synthesis – 7270P
allophanates groups formation – 1616P
amines (tertiary), hazards – 548
antioxidants – 7281
cross-linking, electrocoating (cathodic), acetylacetonates – 8228P
curing, supported on polymers – 9060P
curing agents (amino) & – 142P
cyanates curing, acetylacetonates/phenols – 3302P
cyanoacetates groups/unsatd esters reaction – 5652P
dehydration
—castor oil (hydrogenation) – 7987
—polyamide-imides synthesis – 9147P
diphenyls (hydroxylated) synthesis – 1500P
epoxidation
— 3141P, 7999
—metals (transition)/review – 7258
—oxo-rhenium porphyrins – 9097P, 9098P
epoxies advancement
—phosphonium – 7330P
—phosphonium compounds – 6463P
epoxies polymerisation, titanates/phenols – 840
esterification
—acrylates synthesis – 7265P
—amine hydrochlorides – 3233
—rosin esters synthesis – 4005P
fatty acids dimerisation – 4852
fillers modified by, polymerisation presence – 6387P
for epoxies – 7317
formaldehyde resins synthesis, phosphates – 7326P
hydrogenation, butadiene polymers – 5680
hydrolysis
— 7989
—esters, zeolites as – 4856
hydrosilylation, platinum bound to silica – 8157
hydroxylation – 7999
iodonium salts (polymeric)/copper compounds – 9862P
isocyanates (blocked) unblocking, diazabicycloundecenes – 2484P
isocyanates reactions, with carboxylics/anhydrides – 7351P
isocyanurates formation – 4961P, 5748, 5756P
isomerisation, polymers (sulphinated) – 4857
ketoximes synthesis – 6406P
latent
—benzoin toluenesulphonates – 2524
—oxazolidines derivatives – 4164P
—polyurethane compsns, organo-metallics – 8144P
—sulphonic acids/aminoalcohols products – 6468P
—toluenesulphonic acid products – 6447

Catalysts *(continued)*
maleic anhydride synthesis, vanadium/phosphorus oxide, silica-rich layers – 791P
melamines reaction, NADs particles containing – 9212P
methanolysis etc, fatty acid esters synthesis – 3133
moisture-curables, titanium compounds – 5004P
montmorillonite (ion-exchanged) – 48
oxazolidones groups formation – 2454
oxazolidones synthesis – 8137
oxazolines/phenols reaction, phosphines – 2469P
oxidation
—cobalt compounds – 45
—cobalt(II), oscillations – 2293
—of alkanes – 7991
—pyromellitic dianhydride synthesis – 1499P
particles (core/shell), cores (cross-linked/metal-containing)/grafts – 4084P
phase transfer
—isocyanurates formation – 5756P
—vinylpyrrolidone copolymers – 2285
phenolics synthesis – 5251P
photocatalysts, for organics in water, review – 9011
polyamides synthesis, hypophosphites – 8139P
polyamines synthesis, from isocyanates – 2472P, 2473P
polyesterification
—antimony trioxide, kinetics – 5721
—kinetics/equations – 2407
polyesters synthesis – 3239, 9089
polyethers/polyether-ketones synthesis – 1572P
polyisocyanates/polycarboxylics reaction – 4968P
polymerisation
—acetylenes (hydroxylic) – 4061
—dienes (conjugated), review – 3212
—of norbornenes – 8068
—olefins, mechanisms/active sites – 3214
—transition metals – 3215
polymerisation (cationic)
—boron compounds etc – 1546P
—naphthylmethylpyridinium – 7295P
polymerisation (group transfer) – 4042, 4046
polymerisation (metathesis)
—rate modifiers – 4902P
—tungsten compounds – 2376
polymerisation (oxidative), cuprous systems – 7280
polyurethane compsns
—amidines (cyclic) – 5073P
—onium (various) – 9167P
—tin/bismuth systems – 4106P
silanes/water & – 8530P
silicones/siloxanes reaction – 2567P, 2780P
siloxanes &
—catalysts in microcapsules – 923P
—organo-tins – 6529P, 6530P
siloxanes (unsatd) synthesis, structure & – 8151
siloxanes condensation, stannous octoate – 6525
siloxanes hydrosilylation, inhibitors against – 3323P
siloxanes polymerisation, siloxanolates – 912
solvent vapours oxidation – 9823
stoving finishes, & effects on coatings – 3335
thermal degradation, of polyvinyl chloride – 4947
titanium compounds, polyamides & – 6768P, 6769P
titanium(III) oxidation – 7980P
transesterification
—polyesters synthesis – 2427P
—siloxanes/acrylates – 2504P
—titanates, phosphorus compounds effects – 5699
urethanes compsns
—moisture-curables – 2611P
—polyols/alcohols – 1625P
urethanes formation
—imidazoles/diazabicyclooctane – 6498
—kinetics – 5750
vinyl ethers synthesis – 6401P

Cataphoresis
See electrocoating (cathodic) & electrodeposition (cathodic)

Cathode-ray Tubes
See also television tubes & visual display units
antistatic coatings – 1169P
coatings, against glare – 6815P
conductive coatings – 2794P
radiation-curables (matt) – 9852P

Cathodic Disbonding – 9434
book chapters – 744
cans coatings – 376
epoxy/polyamides, thickness/pretreatment factors – 9429
factors/activation energy – 6722
factors/temp (high) – 2513
fusion-bonded coatings
—temp (elevated), tests – 9428
—twenty-four hour tests – 8387
pipeline coatings
—cathodic protection & mechanisms – 9414
—testing, direct soil burial – 8872
pipes, coatings/tapes, temp/adhesion strength – 2688
polyurethane coatings – 322
resistance, polyolefins/adsorbents – 3489P
testing, methods – 7520

Cathodic Protection
bacteria (sulphate-reducing) & – 5138
blistering – 2670
coatings, siloxanes blends – 9486P
coatings &, overpotential – 369
concrete (reinforced)
—anodes (titanium-based mesh) – 7530
—conductive coatings – 6741P
—conductive coatings/embedded mesh anodes – 7529
—corrosion control/assessment – 7537
—criteria/costs – 6682
corrosion inhibitors &, zinc phosphonates, water (sea) – 4298
corrosion monitoring presence – 5924
corrosion presence, monitoring – 1068
expert systems etc – 7542
handbooks/directories, corrosion control & – 3093
high-performance coatings – 9451
impressed, controllers (feed-back) – 4319
marine environment, coatings/overvoltage & – 2670
offshore structures, coated/uncoated, design/costs – 6697
pipeline coatings, cathodic disbonding mechanisms – 9414
pipelines, surveys (in situ) – 2659
pipes, anticorrosives & – 3475
principles/types/uses – 6724
pylons (electricity) – 370

Cathodic Protection *(continued)*
ships, propellers, coatings & – 5944
ships (naval), coatings & – 1770
ships' hulls, anticorrosives & – 6685
standards ambiguities/lower cathodic protection levels – 379
Cation Exchange
See also ion exchange & ion-exchange entries
Cationic Polymerisation
– 4905
alkenes/dienes, initiation/monomers types, review – 2378
block copolymers/networks synthesis – 4100
books – 3092
catalysts
—boron compounds etc – 1546P
—naphthylmethylpyridinium – 7295P
copolymerisation, review – 2372
initiators
—diazonium salts, mechanisms – 8052
—iodonium groups (chemically-bound) – 9863P
—silver hexafluoroantimonates/vinyl bromide (substituted) – 6429
—triphenylmethane carbenium co-initiators – 94
initiators (polymeric) – 7343
initiators/physical oxidation etc, review – 2357
methylstyrene (alpha-), initiators – 9071
orthoesters, initiators – 2412
oxazolines
— 5735
—macromonomers from – 4103
photoinitiators
—radicals/cationic (concurrent) – 600
—sulphonium salts – 7085P
polymerisation (anionic), simultaneous/separate monomers – 4101
polymerisation (ring-opening)
—acetals (cyclic), review – 2400
—copolymerisation, review – 2370
—cyclic compounds formation – 2351
—esters (cyclic), review – 2401
—ethers (cyclic), review – 2399
—heterocyclics (nitrogen-containing), review – 2449
—reactions/kinetics – 2337
—sulphides (cyclic), review – 2488
—thermodynamics – 2350
siloxanes (cyclic) – 3312
styrene
—sulphonium salts, tetrahydrothiophene-based – 5679
—termination, trifluoroacetates – 3211
styrene/styrene (substituted), review – 2377
vinyl ethers, initiators/monomers/reactions/stereochemistry, etc – 2393
vinyl isobutyl ether
—initiators/activators/living – 7311
—organo-aluminium/trifluoroacetate – 9087
vinylcarbazoles, review – 2459
Cavedon Chemical Co
zircoaluminates to Manchem subsidiaries – 4704
Cavitation
resistance
—coatings, epoxies/flow control agents etc – 5245P
—prediction – 1183
CdF Chimie
renaming, Orkem – 695
Cellulase
fungi, glucanases – 3525
mechanisms – 3528
viscosity &, thickeners/products/activity – 7388
Cellulose
See also hemicelluloses
adhesion to, polymers (cationic) – 828P
biodegradation, cellulase mechanisms – 3528
dissolution, water/ammonium/sulphoxides – 7993
films, carboxymethylcellulose determination – 4484
graft copolymers, synthesis – 8448
grafting, with oxazolines – 202
grafting on – 4142
hydrolysis, reactors/products – 8175
modification
—by ureas, processes/uses – 8174
—review – 4142
modified
—acrylamide derivatives – 526
—by caprolactones, silanes groups end caps – 2708P
—grafting, with styrene – 8041
photoinitiators (bound), synthesis/polymerisation – 9834
products, coatings for – 1282P
pyrolysis, products/mechanisms – 8177
thickeners/emulsion paints – 2720
urethanes, coatings, hardness/time – 4468
wood, FTIR (reflectance, diffuse) – 6089
Cellulose Acetate
latices, film formation/emulsifiers fate – 4535
viscosity, MW superposition plots – 1182
Cellulose Acetate Butyrate
coatings
—acrylics & – 8490P
—polyurethanes &, formulation – 5213
polyurethane coatings – 6801P
transparent coatings, over metallics, wet-on-wet – 4435P
Cellulose Derivatives
coatings, heat exchangers fins – 6833P
flow control agents, hardness & – 9564P
grafting
—then reaction caprolactones – 2509P
—with organo-silicons – 1646P
modified, by silanes, coatings – 4144P
products
—with acrylics – 471P
—with acrylics & acids/anhydrides – 472P
separation/purification – 9188P
synthesis/properties, review – 4142
Cellulose Diacetate
grafting, with oxazolines – 202
stabilisers (light), heterocyclics – 8178P
synthesis, wastes, insulation from – 1281P
Cellulose Esters
conservation, factors – 9187
interpenetrating networks (semi-), vinyl ethers & – 2136P
thickeners, silicate paints/comparison – 54
Cellulose Ethers
anti-misting coatings – 468P
ethoxy content, by GC – 8930
metallic finishes, air-drying compsns – 6821P
modified, hydrophobicity, polymerisation presence – 5671P
NMR (carbon-13) – 8610
purification – 9189P
separation/purification – 9188P

Cellulose Ethers *(continued)*
SIMS – 6903
synthesis
— 4987P
—cellulose activation – 9190P
thickeners, enzymes/viscosity loss/control – 2720
Cellulose Triacetate
degradation – 348
Cement
See also tubes
board, coatings, acrylics – 2789P
coatings for, cement/acrylics/epoxies etc – 953P
tiles, cracks detection by primers – 1862P
Cementitious Coatings
acrylics/epoxies/particles (hollow) – 953P
epoxy/novolacs, aggregates etc & – 7616P
fire resistance, on steel, primers – 1830
pigments – 936
polymers, problems/measures & uses – 936
polymers/aggregates – 7618P
substrates (wet), cement powders/polymers – 5249P
Cementitious Compositions
corrosion resistance, acrylics/nitrites – 1805P
polymers/fly ashes etc – 1716P
primers, for antifoulings, latices/silicones etc – 6025P
Central Nervous System
See also brains, neuropathy & neurotoxicity
metals (heavy) – 7755
solvents, modelling, synaptosome membranes enzymes – 5367
Centre Etudes Recherches Industries Peintures et Industries Connexes
activities – 1359
Centrifugation
dispersions, turbidity/particle size distribution – 1259
overspray water washing emulsions – 7805P
Centrifuges
disc, proprietary, particle size/fingerprint curves – 9728
ultrafiltration in, units for – 6940
Cepsa
joint ventures
—Dai-Nippon Ink & Chemicals – 5547
—Dai-Nippon Inks/Reichhold etc – 9944
—maleic anhydride – 7859
Ceramics
coatings
—alkyd/melamines, ceramics powders & – 9502P
—aminosilanes/carbonyl products, isocyanates & – 2803P
fibres, from organo-silicons – 3961
fillers, paints combustion &, low smoke etc – 6785P
floors, anti-slip coatings – 9596P
marking, cobalt compounds/glycerol/molasses – 3407P
microspheres (hollow), silver-coated/magnetic – 3570
particles, abrasion-resistant coatings, separation – 4338P
powder coatings, applied to hot – 259P
powders, multilayered coatings – 5801P
spheres, anticorrosives, abrasion resistance – 1796P
tubes, joints, primers for sealing – 4447P
Ceric Oxide
manufacture – 783P
Cerium
chromatography – 3691
Cerium Compounds
grafting & – 9066
Cerium Oxide
colloids
—in alcohols, hydroxyphenylcarboxylic acids & – 8033P
—transparent coatings/ultraviolet opacity – 5248P
Certification
building materials, EEC schemes/US impact – 8655
paints, British Board of Agrement – 8951
paintwork, Italian schemes – 9357
CH Industrials
acquisitions by, of Windeck – 703
financial performance/acquisitions – 7906
Chain Extenders
diaminobenzoic compounds, for urethanes – 6503P
polyether-amines/carboxylics etc products – 7332P
polyetheramine-amides – 7353P
Chain Transfer
types/kinetics/importance, radicals, review – 2322
Chain Transfer Agents
accelerators, styrene/maleic anhydride copolymerisation – 3224
emulsion polymerisation
—addition start/during – 9072
—MW etc effects – 2844
—styrene – 1551
hydrogen peroxide, termination & – 2983
linoleic acid – 5731
mercaptans, transfer constants/consumption – 90
olefins, in pentadiene polymerisation – 97P
polymerisation presence, kinetics – 4044
re-initiation constants – 4044
thioethers, acrylates/allyl/acrylonitrile with groups of – 1532
Chairs
wooden, coatings/weathering/decay – 1066
Chalk
See also calcium carbonate
Chalking
resistance
—matt coatings, silica capsules – 1514P
—polymers (chlorinated)/copper compounds – 8431P
Charge Transfer Complexes
cyclohexene/maleic anhydride, photopolymerisation – 9836
polyether-imides, intermolecular, colour – 2855
polymerisation initiation & – 4038
polystyrene/aluminium chloride/solvents – 832
polyvinylcarbazole (nitrated) – 8136
polyvinylcarbazole/pyromellitonitriles – 2604P
Charging
aerosols, single charge – 7722
induction, powder coatings – 6134
oxides, point of zero charge – 8683
powders
—determination, powder coatings – 6134
—electricity (static), hazards/measures – 3097
triboelectric
—enhancement, phosphines – 4243P
—powder coatings powders treatment before – 5200
—powder coatings, additives – 6577P, 8236P
—powder coatings/safety – 7776

Charging *(continued)*
—powders, equipment – 9377P
Chariots
Chinese, adhesives (inorg) – 4219
Cheil Ciba-Geigy
joint ventures
—epoxies – 3896
—epoxy resins – 7864
Cheil Synthetic Textiles
joint ventures, with Ciba-Geigy, epoxies – 3896
Chelates
acetylacetonates, pigments coated by oxides & – 5626P
benzothiazolines/dimethyltin dichloride – 4363
bonding, to both inorg/org – 5656P
coatings
—hydroxylics/anhydride groups etc & – 2798P
—hydroxylics/anhydrides & – 940P
photosensitisers, five nitrogens – 8763
silanes (acetoacetylated) – 7286P
Chelating
phosphating (org) – 5091
tannins/oxides, AAS – 9681
Chelating Agents
See also complexing agents
acrylics (carboxylated), adamantane groups – 4078P
amines (hydroxylated), substrates chelating – 1073P, 1074P
amino resins, substrates chelating – 1072P
benzylamine (hydroxylated)
—N-substituents – 4337P
—ring/N-substituents – 4336P
coatings, hydroxylics/anhydride groups/metal compounds & – 2798P
conversion coatings – 4289P
corrosion inhibitors
—amines (hydroxylated) – 4335P
—dibenzylamine (hydroxylated) – 9487P
driers/accelerators – 2298
electrocoating (cathodic)
—iron removal – 2649P
—ultrafiltration & – 4195P
hydrophobicity, determination, HPLC – 3754
phosphating – 8357P
polysulphides (carboxylated) – 1636
pretreatment, oxalic acid etc & – 3455P
printing inks (ink jet) – 1702P
Chemetall
US turnover plans/new subsidiaries/BASF – 2199
Chemical Conversion Coatings
See conversion coatings
Chemical Industry
computers, expenditure – 5509
hazards assessment – 4804
single European market – 3034
Chemical Industry, American (North)
German companies – 8817
Chemical Industry, Argentine
investment – 4673
Chemical Industry, Asian
statistics – 9913
Chemical Industry, Australian
statistics – 9913
statistics/future/environment/public relations – 5497
Chemical Industry, Belgian
statistics/investment – 9907
Chemical Industry, Canadian
statistics – 9913
statistics/companies/investment/plants etc – 9910
Chemical Industry, Chinese
foreign trade, imports from US – 9911
statistics – 9913
Chemical Industry, Cuban
statistics/investment – 7156
Chemical Industry, Czech
statistics/restructuring/joint ventures etc – 9909
Chemical Industry, Dutch
statistics/investment – 9907
Chemical Industry, European
single European market, US/Japanese activities etc – 2179
Chemical Industry, European (East)
foreign trade, imports from US – 9911
statistics – 9913
Chemical Industry, European (West)
statistics – 9913
Chemical Industry, European, (East)
statistics/investment – 7156
Chemical Industry, Finnish
companies, details, turnover/products etc – 7169
exports/Europe/single European market & – 7122
privatisation – 9950
Chemical Industry, French
companies strategies/performance etc – 696
statistics/investment/restructuring – 9918
Chemical Industry, German (West)
companies profiles – 3100
single European market/effects/plans – 9961
statistics/comparison Italy/trade etc – 5502
statistics/overview, yearbooks – 3100
Chemical Industry, Hungarian
strategy/statistics/trade with Germany – 2184
Chemical Industry, Italian
statistics, costs/added value – 1357
statistics/comparison German/trade etc – 5502
Chemical Industry, Japanese
single European market – 2179
statistics – 9913
Chemical Industry, Korean (South)
statistics – 9913
Chemical Industry, Malaysian
statistics/activities/plans – 2190
statistics/forecasts – 2191
Chemical Industry, Mexican
statistics – 9913
Chemical Industry, Polish
investment, five-year plan – 6249
Chemical Industry, Portuguese
restructuring/divestments/statistics – 9957
Chemical Industry, Russian
foreign trade, imports from US – 9911
plans – 1349
statistics – 9913
statistics/investment – 7156
Chemical Industry, Swedish
statistics/companies/acquisitions – 6276
Chemical Industry, Swiss
acquisitions/companies restructuring etc – 9915
air pollution, regulations (Swiss) & – 7918
competitiveness/single European market – 9904
exports/situation different sectors etc – 6288
financial performance of companies – 9915
Chemical Industry, Taiwanese
statistics – 9913
Chemical Industry, UK
statistics/forecasts – 6267

Chemical Industry, US
chemicals (speciality) – 664
financial performance
—top '100' companies – 7153
—top '300' companies – 7150
financial performance of companies – 9913
financial performance of top companies – 5510
forecasts – 9905
foreign trade, communist countries – 9911
single European market, acquisitions etc – 2179
statistics/markets etc – 9913
Chemical Industry, Vietnamese
statistics/investment – 7156
Chemical Industry, World
financial performance, top two hundred non-US – 3047
statistics – 3034
Chemical Oxygen Demand
See oxygen demand
Chemical Plants
acetic acid etc – 9956
anticorrosives
— 7541
—coatings/linings, developments – 8401
—types – 1775
anticorrosives/sprayed aluminium – 8417
coatings, selection/pretreatment/maintenance – 5132
design, materials selection/testing – 5926
equipment, exhibitions (German) – 1023
expansion, simulators use – 8331
fertilisers/acids, corrosion/control – 5135
fire, risk reduction/alarms etc – 7773
fires, damage assessment/evaluation – 2618, 3422
floors, coatings – 4416
hazards, assessment, Mond Index – 5357
hazards (major), assessment/guidelines/regulations (UK) – 8864
modelling – 7457
pipes, powder coatings – 979P
pollution, monitoring, control centres – 9820
pollution control
— 7897
—public relations & – 7787
pretreatment/anticorrosives/maintenance – 5149
Chemical Referral Center
– 9932
Chemical Resistance
adhesives – 8251
adhesives (epoxy) – 8275P
cashew nutshell liquid products – 9465
coatings
—directories (US) – 8381
—for floors – 457P
—for glass – 3487P
cumyl isocyanates (unsatd) copolymers – 1804P
electrical insulation, water-bornes, fluoropolymers/zinc oxide etc – 5187P
electron beam-curables – 3843P
epoxies (fluorinated), adhesion & – 123P
epoxies (linear)/metals/polyisocyanates – 407P
epoxies/flexibilisers – 2391
epoxies/graft copolymers – 1589P
epoxies/silicones/metal powders etc – 9620P
epoxies/vinylidene chloride polymers – 155P
epoxy/phenolics, phosphates/phosphonates & – 4427P
fluoropolymers
— 2439P
—from vinyl ethers (fluorinated) – 4949P
graft copolymers/cross-linking agents – 1549P
imidazolidones (polyfunctional)/hydroxylics – 4969P
iron (cast) powders/resins – 4348P
isocyanates (blocked) – 1607
isocyanates (unsatd) copolymers/amines (unsatd) copolymers – 2482P
Michael adducts – 4423P
moisture-curables – 6539P
oil paints, gums – 944P
pipeline coatings – 8873
polyamic acids/polyethers/amines – 4671P
polyesters, from chlorendic acid – 8419
polyesters (modified) – 141P
polyesters/silyl groups/zirconates – 9598P
polyether-ketones – 8099P
polymers (hydroxylic)/polyesters/melamine resins – 9600P
polymers/silyl groups – 5775P
polyurethane coatings (two-component) – 5162P
polyurethane coatings (two-pack) – 1124P
radiation-curables – 9850P
resists – 1008P
rosin/diene copolymers synthesis wastes – 7796
siloxanes/zirconium compounds/silyl groups – 8437P
ultraviolet-curables, for plastics – 5430
vinyl ester polymers, factors – 5714
wood coatings – 8909
writing compsns – 8303P
Chemicals
– 7260
agents, coatings resistant to, camouflage & – 3608
biodegradation (anaerobic), testing – 577
directories, equipment & – 6360
directories (German) – 3100
existing, literature reviews, eighteen hundred chemicals – 5360, 9772
fine, manufacturers (custom), UK – 9927
hazards
—books/data sheets – 5601
—consumers, books – 8953
—information, referral services for public – 9932
hazards etc, four hundred, pocket guides – 5606
immune system – 574
inventories, for regulations (UK) – 6334
manufacturers
—business areas/performance/activities – 671
—joint ventures, Europe – 9944
—UK parent/structure/activities/performance – 7190
—US subsidiaries of German – 5561
manufacturers (American, North), acquisition – 3893
manufacturers (Dutch)
—in USA, activities/plans – 3059
—performance/acquisitions – 7160
manufacturers (French)
—acquisition of – 1372
—financial performance/plans – 5554
—investment – 7166
—performance/plans/acquisitions – 695
manufacturers (French/Benelux), interviews/activities/policies – 9960
manufacturers (French/Swiss), investment – 9943
manufacturers (German)
—acquisitions/divestments/performance – 7164
—activities, USA & – 7899
—financial performance – 698
—US turnover plans etc – 2199

Chemicals *(continued)*
manufacturers (Norwegian), restructuring/activities/plans – 9952
manufacturers (Spanish), mergers – 688
manufacturers (Swedish)
—financial performance – 2197
—statistics/activities/acquisitions – 9951
manufacturers (Swiss/international), profiles – 7902
manufacturers (UK)
—acquisition – 669
—acquisition by management – 674
—acquisitions/policy – 7901
—environmental protection – 9941
—financial performance/changes/plans – 7183
—financial performance/renaming – 2214
—performance etc – 5549
—profiles/history – 2210
—workers' role changes – 2209
manufacturers (US)
—acquisition by US – 3071
—acquisitions – 5533
—activities/acquisitions/plans – 3070
—services/products – 670
new
—notification, implications R & D – 6323
—notification, regulations (UK), guides – 4763
—notification, regulations, EEC/USA/Japan – 3770
—notification/proprietary products – 3096
—regulations – 5454
organic, partition, tissues/water/blood/air – 7771
plastics (reinforced), attack by – 7524
regulations, USA/Japan/Europe/Australia etc – 5454
regulations (European), comments/harmonisation – 9990
sensors, waveguides, evanescent wave effects – 1198
speciality
—manufacturers (US), acquisition of – 705
—market (US), profitability/statistics etc – 6280
—units (French) to USA – 7862
—USA, growth/technology/finance/take-overs – 664
spills, industry/government responses etc, USA – 2114
statistics (US), top fifty chemicals – 6272
toxicology, testing for registration – 5348
transport (road), trailers corrosion causes/control – 2674
Chemie Linz
melamine, plants, expansions (planned) – 4702
Chemiluminescence
analysis (trace), cobalt/chromium/hydrogen peroxide – 2862
nitric oxide/ozone, nitrogen determination – 8625
Chemimpex
titanium dioxide, joint ventures – 7886
Chemiphoresis
See autophoresis & autophoretic entries
Chemisorption
dissociative, water on titanium – 2004
Chemistry
data analysis, quantile/quantile plots – 3680
heterocyclics, books – 10004
molecular modelling – 9966
organic, solvents & – 2244
paints, bonding types – 6535
ultrasonics, reactions acceleration – 3139
Chevron Chemicals
divestments, speciality units to Ferro – 7862
Chicago Paint & Coatings Association – 1380
Chicago Society for Coatings Technology
history/activities – 1380
Children
suckling, volatiles via milk (maternal) – 4603
Chimneys
cementitious coatings – 7616P
emissions, aerosols, sampling – 6075
supports, powder coatings – 4199
China Clay
See kaolin
Chip Resistance
anticorrosives, metals/powders/epoxies – 8436P
asphalts/petroleum sulphonates etc – 1800P
assessment, fracture of films on foils – 1897
automobiles
—plastisols – 1719P
—polyester-urethanes – 1874P
coatings
—epoxy/polyesters – 4428P
—polyesters/polyethers/amino resins – 1140P
—thinner coatings possible – 1161P
electrocoating (cathodic) – 4186P, 8228P, 8229P
epoxies (aliphatic, aromatic-modified) – 2392
epoxies (modified)/carboxylated, & other layers – 5247P
epoxies (modified)/carboxylics, on electrocoating – 6020P
epoxies/polydienes/curing agents – 9625P
epoxy/polyesters
— 7611P
—epoxies (linear) – 4442P
heat-curables, epoxy/polyesters – 5997P
isocyanates (blocked)/polyamines – 9630P
melamine resins/hydroxylics – 9614P
plastisols, over electrocoating – 1717P
polyether-esters, amino resins & – 458P
polyurethane coatings, polyesters/isocyanates (blocked) etc – 460P
polyurethane coatings (one-component) – 6842P
primer surfacer compsns – 2552P
primers, polyester-urethanes/amino resins – 463P
simulation studies, computers – 2521
solventless compsns, polyurethanes/oils/plasticisers – 5037P
testing, impactor shape/stresses/moisture effects – 1902
topcoats/lower, mechanical properties each – 464P
transparent coatings, over coated areas – 1176P
undercoats, titanium dioxide/calcined kaolin – 2799P
water-bornes
—calcium carbonate (acicular) etc – 949P
—epoxy/polyesters – 226P
Chitin
acetylation – 8037
Chitosan
acetylation – 8037
derivatives
—nail varnishes – 6849P
—water-soluble – 2313
paper coatings – 442P, 8491P

Chloral
copolymers, with acetaldehyde, nature/gamma-rays degradation – 7080
Chlorates
antistatic coatings, acrylics & – 9626P
Chlorendic Acid
polyesters, chemical resistance – 8419
Chlorendic Anhydride
alkyds, flame retardance – 435
Chloride Ions
anticorrosives, zinc chromate – 7008
blistering, cations effects/mechanisms – 377
concrete (reinforced) – 6728
coastal environment – 9440
corrosion – 9410
electrochemical measurements – 6718
penetration, book chapters – 7521
determination, in concrete – 7516
diffusion, in concrete, depassivation time – 5157
electrodes (copper) & – 4318
electrodes (selective), films (polymer) as – 1934
release, with chloride ions, fouling control – 6767P
removal, from epoxies, electrocoating (cathodic) & – 9223P
Chloride Process
anatase from – 4104
plants
Australia – 4703
Saudi Arabia, construction contracts – 4714
reactors – 5628P
Chlorides
analysis (trace), continuous – 6088
residual, contaminants, coatings/corrosion resistance – 4312
Chlorinated Compounds
biodegradation – 8743
Chlorinated Rubber
adhesion, to steel, determination, methods – 6861
antifoulings, resinates/cuprous oxide & – 1094
coatings
electrochemical measurements/noise – 2729
for wood, tropical conditions – 2652
for zinc etc, carbon-chlorine splitting – 6701
corrosion resistance, electrochemical measurements – 1062
electrochemical measurements, iron oxide (micaceous) & – 9450
linings, swimming pools, ageing/FTIR – 9664
primers (water-borne), acrylics & – 248P
thermogravimetry – 7647
Chlorine
determination, in air/water – 3646
fouling control, bromides & – 9525P
Chlorites
antistatic coatings, acrylics & – 9626P
talc-containing, standards – 726
Chloroacrylates
copolymers, resists – 611P
fluorinated
synthesis/photosensitive compsns – 2163P
synthesis/resists use – 4095P
Chlorobenzenes
substituted, perfluoroalkyl groups, synthesis – 9007
Chlorofluorocarbons
aerosols
replacement, fire hazards – 6188
use reduction EEC – 7198
halogenated (fully), alternatives – 9824
production levels/consumption, EEC directives – 1387
regulations (US), restrictions/profits 'taxes'/implications – 9824
replacement/phasing out, agreements – 9819
solvent blends, water displacement – 8004P
Chloromethyl Ethers
carcinogenicity – 6174
epidemiology – 4608
Chloromethyl Methyl Ether
generation, for chloromethylation, not handling directly – 3276
Chloromethylstyrene
copolymers
–grafting with acrylates – 4024
quaternisation/antibacterial activity – 8454
resists, isomers effects studies – 4633
polymerisation, styrene &, surface groups – 5733
Chloronium Salts
photoinitiators, rearrangement reactions/homolysis/heterolysis – 9831
Chlorophenols
antifoulings, ammonium (quaternary) & – 5954P
antimicrobial activity, structure & – 3515
Chloroprene
graft copolymers, adhesives (water-borne) – 5821P
Chloroprene Polymers
adhesives – 3379P
adhesives (water-borne), EDTA etc & – 5828P
Chloropropyl Acrylates
hydroxylated, photocurables, epoxy/acrylates & – 9839
Chlorosilanes
hydrolysis, kinetics – 4119
hydrosilylaton by, catalysts (bound) – 8157
products
–with glycols, polymers – 8152
with polyethylene (oxidised) – 8438P
synthesis, via Grignard – 3984
unsaturated, products with living, macromonomers – 4028
Chlorotrifluoroethylene
polymers
films, hydroxylation (surface)/reactions – 156
surface modification/adhesion – 4465
Chlorotrifluoroethylene Copolymers
electrocoating – 954P
powder coatings – 1678
wire coatings – 7586P
Chroma
See saturation
Chroman
spiro compounds, synthesis – 2295P
Chromate Coatings
antimony oxide (coated)/organics – 1745P
chromium(VI)/chromium(III)/colloids/anions – 1047P
coatings over, Cr(VI)/Cr(III) conversion/leaching control – 6004P
electrochemical measurements, electrochemical noise – 6710
ESCA/electron spectroscopy (Auger) – 1033
for aluminium, electron microscopy (scanning) – 1997
for magnesium alloys – 5113
for steel (zinc-coated)
–polymers etc & – 1082P
–powder coatings & – 3447
for zinc, acids in formation – 6700

Chromate Coatings *(continued)*
formation, mechanisms, review – 6657
review – 6657
steel (zinc-coated), silicate paints & – 4327
storage/weathering before painting over – 1284
treatment after, acrylics/sols – 405P
Chromates
encapsulation – 2683
health & safety, standards/review – 1421
toxicity, & problems frequency now – 3778
toxicology, review – 1421
zinc/silicate paints – 1089P
Chromating
aluminium
—degreasing before, acid/alkali – 5105
—standards – 725
chromium(III)/chromium(VI)/silica/anions – 1751P
combination
—with coating – 7495
—with coating, simultaneous – 335P, 1045P, 1046P
metals (aluminium-coated), penetrants – 4288P
metals (various), review – 6657
metals (zinc-coated), penetrants – 4288P
pipes, fusion-bonded coatings over – 9359
process etc – 5885
replacement, silanes/polymers/chromium(VI) – 5125P
stainless steel
—electroplating before – 1754P
—immersion/electrolysis/treatment steps – 8366P
steel (nickel-coated), electrolysis – 4291P
steel (zinc-coated)
—before powder coatings – 2637
—pH/degassing/proprietary – 3447
—treatment before – 4290P
zinc
—acids in formation, comparison – 6700
—borates/acidic, solutions/films composition – 5107
Chromatography
See also electro-osmotic & ion chromatography
coatings field, review – 7646
combination
—with GPC, copolymers – 3662
—with spectrometry, techniques – 6063
continuous, annular, of industrial use – 528
cross-fractionation, polymers – 1941
equipment, proprietary, exhibitions (US) – 7648
equipment/services, directories – 5297
hydrocarbon resins – 7672
hydrodynamic
—book chapters – 1992, 3099
—capillary, operating parameters – 9711
—polymers (water-soluble) – 514
optical activity – 5603
peak identification, computers/spreadsheets – 1996
polymers, dispersion correction – 1956
preparative, columns packing materials parameters – 6055
reverse phase, fatty acids, detectors, indirect differential thermal lens – 6905
sample introduction, fluidic/syringe – 9709
unified, liquid/supercritical fluid/gas temporal – 5290
with supercritical fluids
—advantages/equipment/future – 4526
—book chapters – 3099
—combination with FTIR – 7651
—detectors (photoionisation) – 6917
—detectors, FTIR – 3643
—directories – 5297
—FTIR &, samples extraction – 4479
—GC same column/temporal – 5290
—injection/extraction/detectors – 5303
—MS &, waxes – 4497
—MW separation – 7662
—review – 7676
—uses/combined techniques, review – 3648
Chrome Pigments
anticorrosives, replacement – 8398
manufacture, monitoring (biological)/working practices – 8733
statistics (Japanese) – 6252
Chromenes
photoinitiators, triazines & – 2146P
Chromic Acid
primers, epoxies & – 4353P
wood sidings treatment – 1056
zinc in, zinc dust paints over – 6739
Chromic Oxide
hydrated, colloids – 1200
particles (fine), by pyrolysis by lasers – 6371
Chromites
producers/deposits/statistics/uses – 5619
Chromium
alloys, with iron, passivation formation – 7667
analysis (trace), chemiluminescence – 2862
determination
—in air, soluble/insoluble – 1425
—in blood etc – 1230
—trivalent/hexavalent total – 8641
environment/pollution/toxicity – 1272
hexavalent
—chromatography (ion), trivalent separation, detectors – 3700
—coatings, polymers (water-sol etc) & – 401P
—determination – 8641
—determination, potentiometry – 6094
—exposure/sister chromatid exchange not correlate – 4598
—from dioxide solubility – 6117
—genotoxicity – 549
—health & safety, standards – 1421
—pretreatment, silanes/polymers & – 5125P
—reduced (partially), anticorrosives (water-borne) – 960P
—replacement in wash primers – 5172P
—treatment with, aluminium, after cleaning – 9370P
—waste water, treatment, reduction/chromic hydroxide formation – 9806
—water pollution, regulations (US) – 3082
leaching, control – 6004P
metabolism etc/toxicology/monitoring (biological) – 5599
monitoring (biological)
— 8733
—welding rods use – 4596
powders, anticorrosives, over zinc dust/fluoropolymers – 9494P
recovery, from paints wastes – 1369
soluble, toys, testing/limits – 3944
trivalent
—chromatography (ion), hexavalent separation, detectors – 3700
—determination, laboratories comparison – 1936
—water repellents, for wood, FTIR – 3647

Chromium *(continued)*
ultraviolet-curables, glycidyl copolymers/onium – 5413
Chromium Carbonyl
complexes, with arenes, polymers from – 922
Chromium Compounds
biological exposure indices – 2942
coatings, on zinc-coated, then water-bornes – 397P
electrolysis, pretreatment by – 4286P
pretreatment
—silica & – 1738P
—silica/silanes/polymers products & – 1744P
—with silica & – 325P
undercoats, polymers/silyl groups & silica products – 1792P
Chromium Dioxide
coatings, mechanical testing (dynamic) – 4473
interactions, with binders, adsorption/oxidation – 4536
solubility, in water, stabilisation & – 6117
Chromium Oxide
coatings, phosphorus acids etc/metal powders & – 445P
electrodeposition, on steel (zinc-coated), paintability – 1043P
Chromium Trioxide
See chromic acid & perhaps chromium oxide
Chromones
azomethine groups, ketones/azaxanthones from – 3137
substituted, products from – 3137
Chromosomes
See also sister chromatid exchange
aberrations
—acrylamide – 9765
—acrylic acid/acrylates – 2098
—dithiocarbamates – 5383
—piperazine/ethylene oxide/formaldehyde, studies – 5362
—trichloroethylene – 5376
Chugoku Marine Paints Co
financial performance/activities – 7173
CI (Colour Index) Name
See C.I.
Cia Mexicana de Pinturas International
alkyds, plants, Mexico – 3066
Ciba-Geigy (UK) Ltd
environmental protection, investment – 9941
Ciba-Geigy AG
joint ventures, with Cheil Synthetic Textiles, epoxies – 3896
Ciba-Geigy Corp
quinacridone pigments, plants expansion – 4718
Ciba-Geigy Group
activities/financial performance/plans – 7902
investment, France – 9943
joint ventures, Samsung Group & – 7864
Ciek
acrylic monomers, plants (planned) approvals – 7861
joint ventures, Ciquine/Productos Quimicas Elekeiroz – 681
Cigarettes
burning, coatings with resistance to – 5977P
CIL Inc
industrial finishes transfer – 683
joint ventures, Bapco, buy-out by CIL – 3060
Cinnamates
dimers, polyamides, & photochemistry – 3286
groups
—main chain, siloxanes copolymers – 281
—pendent, siloxanes (unsatd), synthesis – 5420
photochemistry, isomerisation, photosensitisers (polymeric) – 9840
synthesis, from acrylates, by arylation – 2286
ultraviolet absorbers, fillers modified by – 3994
Cinnamic Acid
copolymerisation, effects on initiation – 9074
Cinnamonitriles
substituted, photoresists – 6238P
Cinnamoyl Groups
dibenzalketones, heat-curables – 6507P
photoinitiators, glycines & – 7816P
Cinnamylideneacetates
substituted, cyano groups, siloxanes (unsatd) with – 5420
Citroen Hispania
quality assurance – 9948
Cladding
steel, corrosion/control – 6720
Classification
adhesives, codes, standards – 1408
carcinogens
—actual/potential/suspected – 716
—schemes – 9777
hazardous materials
—regulations (UK) – 3927
—regulations (UK), amendments – 1396
—regulations (UK), Northern Ireland – 5583
—transport (air) – 5586
—transport (road) – 5584, 7205
mills (tumbling), axial velocities/selective retention – 2622
particles
—by composition, electron microscopy (scanning)/computers – 2867
—impactors (virtual) – 3743
regulations (European) – 3096
solvents
— 2244
—exposure limits etc, Italy – 7200
suspensions, sedimentation/inclined settlers/theory – 8660
trade items, EEC – 1385, 3078
Classification, Packaging & Labelling of Dangerous Substances (Amendment) Regulations 1988
provisions – 3927
Classification, Packaging & Labelling of Dangerous Substances (Amendment) Regulations (Northern Ireland) 1988
provisions – 5583
Classification, Packaging & Labelling of Dangerous Substances Regulations 1984
transport (road) &, codes of practice, revisions – 5584
Clathrates
polymerisation in, review – 3167
Clays
baked, bituminous coatings, terracotta simulation – 6817P
calcined, proprietary, emulsion paints, properties – 2257
modified
—by ammonia then organics – 7970P
—by hydroxides, thickeners – 3998P
—by inorganics/surfactants, adsorbents – 8738
—dispersion/gelation/activators/de-gelation – 2829
—dispersions, thickeners etc – 6421P

Clays *(continued)*
—fibres, electrocoating (cathodic) – 5491P
—mechanisms – 2829
—self-dispersing – 2829
—stabilisers, dispersion polymerisation – 809P
—thickeners, emulsion paints, viscoelasticity/application behaviour – 2307
—utilisation/uses/demand/supply – 7945
paper coatings
— 2755P
—cohesion – 6038
suspensions (aq), rheology, silicates/phosphates/calcium & – 9648
Cleaning
See also rinsing, washing & self-cleaning entries
aluminium
—alkaline then acidic – 9370P
—sulphuric/phosphoric/hydrofluoric – 9370P
asbestos cement, after weathering – 8338
brushes
—for painting – 9390P
—for painting, sachets – 330P, 331P, 5127P
chemical, considerations/checklists – 8340
coatings, aircraft – 5146
emissions, solvents/regulations – 582
equipment
—for brushes/rollers – 9391P
—laboratories, suppliers/ranges – 9653
—washers, performance improvement – 304
hazards/precautions – 5355
manual – 5098
marble, buffing mixtures – 4450P
painting equipment – 7511P
power tools use, equipment/operation/safety – 9368
rollers (paint), insertion into jackets – 2647P
ships' hulls, equipment, dry docks – 1733
solvent vapours, plants design/pollution control – 6201
spray equipment, regulations (Norwegian) – 4738
spraying (compressed air), dispersions (aq) – 8355P
steam etc, coatings resistance – 4339P
stone (exterior), methods comparison – 9364
tanks, paint manufacture – 7449
ultrasonics/surfactants, treatment before – 8359P
vacuum, dusts removal, systems (centralised) – 3788
Cleaning Compositions
alkaline, non-caustic, oils removal – 6647
aqueous
—polymers (carboxylated)/amines – 8355P
—v solvents – 3441
for plants processing isocyanates – 4296P
printing inks removal – 343P
proprietary, for brushes, 'Which?' surveys – 2536
pyrrolidones, water barriers on baths – 5124P
solvents, regulations/emissions/necessity – 4281
Cleanliness
steel, degree of, standards, visual assessment – 7924
surfaces, assessment, standards – 7923
Clear Coatings
See transparent coatings
Climate
See also weather(ing) entries
standards, DIN/ISO – 4784
weathering (natural), sites Germany (East) – 6738
Clothing
protective
—asbestos, guidance – 6182
—Consumer Protection Act/standards (UK) – 4770
—EEC directives (proposed) – 4753, 4755, 6328
—gloves, selection/expert systems – 565
—organics solubility in polymers – 7719
—permeation testing – 2964
—proprietary – 8705
CM Surface Treatment
Chemetall subsidiary, pretreatment materials – 2199
Coagulation
latices
—critical coagulant concentration – 6120
—seeds, salt particles as – 2551
overspray – 4626
Coal
carbon black from – 24P
mining, anticorrosives – 1774
products, anticorrosives, asbestos fibres & – 4316
Coal Tar
compatibility, with preservatives/coatings – 6959
roads dressing, polycyclics (exposure) – 3772
waterproof coatings, polyurethanes/clays etc & – 1168P
Coal Tar/Epoxy
anticorrosives
—mica & – 2710P
—ships, antifoulings over – 1770
Coalescence
bubbles, non-Newtonian solutions, photography – 3725
latices
—film formation – 2538
—films, surfactants to surfaces – 6115
Coalescing Agents
cyclohexyl compounds, testing – 5783
efficiency, factors – 2537
emulsion paints, properties – 2541
hydrolysis resistance – 2541
isodecyl benzoate – 7272
powder coatings – 3361P
proprietary – 2537
Coates Bros PLC
inks business, merger with Lorilleux – 696
Coating Weight
determination, phosphate coatings/X-ray fluorescence – 6923
Coatings
See also 'coatings, inorganic', lacquers, paints, varnishes, types of coatings, e.g, high-solids coatings, etc
aerospace, standards – 7925
directories (UK) – 3432
directories (US) – 8381
erasable, vinyl acetate/water colours etc – 4244P
two-component
—acrylics (hydroxylated)/acrylics/isocyanates – 1650P
—acrylics/anhydrides groups/glycidyl – 7379P
—basecoats, topcoats (cross-linkable) over – 9623P
—construction equipment, application – 5085
—epoxies, diluents (proprietary) – 2290
—ethylene carbonate groups/amino groups systems products – 905P
—spraying (high-speed) – 9356
two-pack, acrylics/isocyanates – 2767

Coatings, Inorganic
application, acoustic emissions – 6997
oxides/silicates/aluminates/phosphates – 8481
porosity, by polymers particles removal – 477P
silica – 287P
Cobalt
analysis (trace), chemiluminescence – 2862
atomic emission spectrometry, plasma (inductively-coupled) – 1232
coatings for, interfaces/Mossbauer spectroscopy – 505
monitoring (biological) – 5599
MS (secondary ion), analysis (trace) – 1980
toxicity, rats (pregnant) – 6187
Cobalt Blue
exposure, monitoring (biological) weeks later – 3777
pigments of this type, manufacture – 7246P
toxicology – 3777
Cobalt Complexes
chelates, photochemistry/solvents effects – 2305
colourants – 3103
reaction, with oxygen – 46
temperature-indicating paints – 3580P
unsaturated, & polymers, oxygen absorption – 5645P
Cobalt Compounds
autoxidation presence, with/without fructose – 42
catalysts
—benzaldehyde oxidation, oxygen/oscillations – 2293
—oxidation reactions – 45
catalysts (supported), for curing – 9060P
packaging materials, oxygen scavenging – 7067P
pigments, from aluminium salts etc & – 7246P
printing inks – 9308P
zaffre, marking compsns – 3407P
Cobalt Driers
See driers
Cockroaches
coatings against – 6808
Cohesion
adhesives, polyurethanes – 9267P
paper coatings, clays v carbonates – 6038
zinc dust paints/epoxies – 6735
Coil Coatings
See also strips
advantages/development work/use increase strategies – 8509
application
—both sides – 8367P
—companies (European) – 7142
—companies (European)/lines costs – 5526
—companies (UK), profiles/quality control – 8334
—film thickness monitoring – 9729
—lines – 2518
—lines (UK) – 3917
automobiles, use/proprietary products – 3564
bonding, adhesives, tack bonding – 8247
corrosion resistance, strontium chromate/tripolyphosphates – 3108
domestic appliances
—advantages etc/use – 3568
—requirements etc – 8515
electron beam curing – 9832
epoxies (aliphatic, aromatic-modified) – 2392
flexibility, by warm forming, Tg/equipment/monitoring – 5985
for galvanised steel, polyurethanes on epoxies – 5214
heat resistance, polyester-imides – 6814P
manufacturers (European) – 7142
manufacturers (UK), products – 3918
market (European), companies/statistics/uses etc – 5526
market/requirements/pretreatment/substrates – 3577
markets/changes/factors (US) – 3035
melamine resins, carbamates groups – 8133
plastisols, weathering, durability prediction – 2897
polyester polyols/polyisocyanates (blocked) – 4170P, 4171P
proprietary – 3577
siloxanes/fluoropolymers – 3490P
statistics (European) – 2186
statistics (US) – 2186
statistics/companies, Europe – 7142
statistics/markets, North America – 7143
steel coated by, bonding techniques/materials – 9570
surfaces, similar to sprayed, paint systems – 4156P
tetrafluoroethylene copolymers (hydroxylated) – 1790P
transparency, particles (transparent) – 2783P, 2784P
types/testing/properties/uses – 2518
vehicles (motor), limitations/welding – 3569
water-borne, viscosity (dynamic uniaxial extension) – 6881
Coke
calcined, conductive coatings – 6741P
conductive coatings, binders etc & – 7609P
Collanti Avanzini SpA
acquisition, by National Starch & Chemical – 3064
Colloids
aggregation, modelling, review – 4556
chromate coatings – 1047P
electrophoresis, zeta potential of apparatus walls – 8661
field flow fractionation (sedimentation), reinjection – 6925
flocculation, by polymers, modelling – 8678
flow, shear/light scattering – 2833
interactions/studies methods/analogues states – 6150
iron oxide etc, reduction/iron(II) fate – 2025
manufacture, from solutions/non-solvents – 823P
oxides (metal), protons on/NMR etc/susceptibility – 1200
particle size, separation in capillary tubes – 8695
particle size distribution, determination – 5341
polymers, stabilisation (steric)/inks – 8291
principles, books – 4793
rheology, aggregate networks, universal behaviour – 3619
silica, silicates hydrolysis in microemulsions – 9757
stabilisation (steric), interactions/square well potentials – 7715
structure
—shear induction of – 3617
—shear induction of, light scattering – 3628
X-ray analysis/electron microscopy/small-angle scattering – 6983
zeta potential, review – 8672
Colloids, Protective
emulsion polymerisation presence
— 5725P

Colloids, Protective *(continued)*
—grafting on – 8078
polymerisation presence, emulsion properties & – 2417
polymers (cationised), pigment dispersions – 8989P
polyvinyl alcohol
—emulsions & – 6484P
—vinyl acetate polymerisation – 843
surface-active, polymerisation presence, latices (fine) – 4074P, 4075P
vinyl alcohol copolymers – 5726P
vinyl alcohol polymers, hydrolysis degree/viscosity – 3166
water-bornes, flow control agents & – 3149P
Colorificio Attiva SpA
marine coatings, joint ventures – 9936
Colorificio Corti SpA
acquisition, of control in, MaxFin – 6303
Colorificio Valtramigna SpA
acquisition, majority of, by Casco – 6307
Colorimeters
comparison, with reflectometers/densitometers – 6033
matching using lasers beams – 8566
Colorimetry
chromium, determination in air – 1425
comparison, with densitometry – 5258, 6853
image analysis – 5259
microscopy, problems – 6030
nacreous pigments
— 2813
—new pigments/combination – 2264
pigments, quality control, sample preparation/testing effects – 2807
pigments (org) – 6851
video digitising systems, calibration – 490
Colour
appearance
—centre/surround, spacial/chromatic parameters – 484
—constancy, influence theory – 7634
—constancy/illuminants/other pixels influence – 7634
—evaluation, visual/instrumental – 483
—luminants (various)/non-linear colour appearance models – 2815
—matching by illuminance changes – 2814
—specification, hue/saturation scaling – 487
borders (minimally distinct), chromatic adaptation & – 8569
classification, architects terminology – 7632
depth, colour strength/pigment concentration/pigments – 1179
information sources – 3605
measurement
—equipment (proprietary) – 6166, 7444
—equipment comparison/samples preparation – 4455
—neutral background fields – 486
—on-line, equipment (proprietary) – 3609
—remote (twenty feet) – 6850
—theory/equipment/uses – 3605
names, Munsell colour hue &, membership functions – 7628
non-uniformity, coatings, mechanisms/control – 8183
polyvinyl chloride, pigments size/concentration, prediction – 2808
process control, computers/spectrometers – 8572
radiation-curables, generation on curing – 8810P
selection, sales optimisation/optimum working conditions – 1178
theory/selection, books – 1178
Colour Changes
acetylenes (difunctional) polymers – 8565
automobiles, by humidity/temp/light etc – 9637P
coatings, aircraft – 5146
electrical potential, siloxanes/carbazoles groups – 8574
powder coatings
— 6654
—quicker – 7480
solvents loss indication – 8986P
Colour Diagrams
See colour spaces
Colour Difference
calculation, standards – 723, 3612
colour spaces, LABmg – 6852
determination
—metallic finishes, instruments – 1181
—visual, comparison grey scale – 8901
ellipses – 2804
metrics, comparison/data sets – 8561
tolerance ranges calculation – 5257
tolerances, perception data sets – 8561
Colour Formers
fluorans – 4239P
Colour Index
See also C.I. for specific names
of Society of Dyers & Colourists
—additions & amendments – 4817
—additions & amendments to – 765, 3110, 7239
—pigments/solvent dyes supplements – 5609
Colour Matching
brightness, stimulus duration/wavelength – 3613
colour matching functions, models/determination – 8566
colours collections defined mathematically – 7627
computers, programmes types/features – 6857
cost effectiveness/minimum colours storage – 6031
equipment/software, proprietary – 3602
factors, costs/corrections/pigments colour etc – 1180, 6856
functions, variations, physiological causes – 2816
hue difference, definition revision – 5256
illuminance changes, non-equal samples – 2814
illuminants, visual/standards/point of sale problems – 6855
Kubelka-Munk theory, two-constant, algorithms – 3614
metamerism, retention various illuminants, calculations – 5255
paints (liquid) – 8571
printing (foils), tolerance ranges calculation – 5257
printing inks
—against standards, criteria – 3610
—computers – 6032
saturation, area compensating for differences – 3611
tristimulus values/calculated reflectance curves – 8571
weighting factors, CIELAB/CMC – 2804
Colour Spaces
colours names centroids – 5253
LABmg, linearity – 6852
Munsell, correlation with names, membership functions – 7628

Colour Spaces *(continued)*
Pope colour system – 488
Swedish Natural
— 4456
—analysis by non-linear colour appearance models – 7631
Colour Strength
See also tinting strength
colour depth/pigment concentration & – 1179
determination, pigments in inks – 485, 6029
phthalocyanine pigments (copper, halogenated) – 770P
Colour Vision
chromatic adaptation, adapting wavelengths & – 8569
models, problems/luminance calculation – 8567, 8570
spectral tuning of opponent pathways, temporal/spatial effects – 3606
theory – 7634
visual pigment curves/averaged observers/corrections – 2812
Colourants
complexes, transition metals/aminopyridines – 3103
definitions – 6350
dispensers, mixing apparatus – 7375P
fading, nitrogen oxide – 7241
health hazards, exposure/risks assessment, & measures – 2049
history, Rome, types/names/composition – 755
market (European), statistics/forecast – 666
Mexico, ancient – 6368
non-metallics/semiconductives layers, metal powders on – 1784P
regulations &, & effects, review – 3770
solvents &, plastics mouldings surfaces colouring – 1837
Colours
collections
—atlases/specifiers – 7629
—defined mathematically – 7627
—Munsell notations accuracy problems – 482
comparison, visual, standards – 1445
forecasts, nineteen ninety-one, USA groups – 8563
monitors, computer-controlled, calibration – 5254
naming, centroids in colour spaces – 5253
painting (contract), forecasts (US) – 492
Combustible Gases
See also flammable atmospheres & flammable gases
Combustible Liquids
See also flammable liquids
Combustion
appliances (gas-fired), anticorrosives testing – 5912
emissions, aerosols, stacks sampling – 6075
products
—carbon monoxide, hydrogen chloride & – 1273
—organic products, hazards – 7027
—plastics, corrosion – 3775
—polymers, toxic gases, tests – 8717
—polymers, toxicity – 7015
—polyvinyl chloride, dioxins possibility – 6173, 6184
—toxicity data assessment/use – 6190
—toxicity testing protocols evaluation – 1269
—wire coatings, toxic fumes avoidance – 2747P
Comminution
See also grinding & milling
fluoropolymers, powder coatings manufacture – 978P
particles, shape from, brittle solids – 293
Companhia Petroquimica Camacari
vinyl chloride/polyvinyl chloride – 3890
Companhia Vale do Rio Doce
kaolin – 3062
titanium dioxide
—beneficiation plants/deposits – 3062
—concentrates to Du Pont – 7162
Compania Espanola di Petroleos
maleic anhydride, plants (planned) – 3882
Companies
directories (UK) – 734
small/medium, labour regulations (EEC countries) & – 663
UK
—addresses – 6365
—financial performance, collected, books – 1449
Compatibility
acrylics/polyurethanes, toughening – 5216
acrylics/styrene-type polymers – 8057P
adhesion & – 6884
alkyds/amino resins – 2702P
block copolymers segments, with polymers – 6422P
clays (modified) – 7970P
fluoropolymers – 883
interpenetrating networks – 77
polycarbonates/acrylics – 6476P
polyepichlorohydrin/acrylics – 6883
polyisocyanates blends/co-reactants – 4114P
polymers
—compatibilisers (polymeric) – 797
—incomplete, gloss reduction – 3615P
—reduction on adding to networks – 6874
—surfactants (polymeric) – 9023
—techniques for studying – 2875
polyols/diols, urethanes for – 9092P
polyurethane compsns, between components – 5772P
rubber (natural, epoxidised)/polymers – 4552
sealants/coatings – 4245
urethane oligomers – 161
Complexes
See also charge transfer complexes
antifoulants/corrosion inhibitors – 3524
bisazomethines (unsatd), & polymers thereof – 5645P
maleic anhydride/mercaptans – 3236
montmorillonite, organic complexes – 1008P
polyacrylic acid/polyvinyl methyl ether – 3165
polyurethanes/zinc ions, imidazoles groups – 3288
Complexing Agents
See also chelating agents
adhesion promoters, amides (unsatd) groups – 3154P
crown ethers (sila-) – 2284
degreasing – 2644P
macrocyclic, polymerisation presence, initiators & – 1594P
Compressed Air
blast cleaning – 1729
blasting, considerations – 9363
Computers
See also automation, databases, expert systems, microprocessors & on-line entries
air pollutants mapping, workplaces – 5392
automation, cleaning (vapour) systems – 6201

Computers *(continued)*
chemical industry, expenditure – 5509
chromatography
—dispersion correction – 1956
—spreadsheets – 1996
colour matching
— 1180
—equipment/software, proprietary – 3602
—printing inks – 6032
—process control (statistical) – 8572
—programmes types/features – 6857
colour measurement, equipment – 3605
corrosion
—modelling/thermodynamics/free energy – 1060
—pipelines (submarine), risks assessment – 386
—prediction, books – 745
corrosion monitoring etc – 7542
data acquisition/analysis, zeta potential – 6998
data acquisition/instrument control, adaptors – 6930
data banks, ships' tanks coatings selection – 6690
data sheets (material safety) – 7429
databases
—materials databases – 5573
—products on, manufacturers/wholesalers/painters – 4699
—software (proprietary), books – 7217
degreasing, control – 5884
desktop publishing, yearbooks – 7929
disc directories, advice – 4735
disc drives, repair/adhesives – 7417
expert systems
— 4802
—coatings etc selectors – 3074
—construction/role/quality control – 2216
—directories – 730
—hazardous materials handling – 9794
—HPLC (reverse phase) – 6053
—moisture sampling – 1194
—MS – 6915
—plants troubleshooting – 3425
—polymers blends – 9047
—scrubbers/corrosion analysis & remedies – 1772
flow injection analysis – 9698
formulation
— 2520
—condensation polymerisation – 2347
—paint manufacturers & – 4145
—polymers synthesis, control & – 5856
—properties/recursion – 1647
—simulation techniques – 2521
—solvents – 2291, 4148
GC
—solvents identification – 8624
—vegetable oils blends, matrix inversion – 3638
GC/FTIR/MS, library searching – 9668
GPC, data acquisition/treatment – 1982
housings
—textured coatings, powder coatings – 4200
—textured coatings, spraying – 5122
HPLC
—interfaces – 9700
—time-domain differentiation – 6906
image analysis
—aggregates – 2936
—electrophoresis/bacteria identification – 2732
—gels etc in melts – 6142
—proprietary products – 7698
impedance spectroscopy, control/data handling & analysis – 2669
information management systems, laboratories – 2192
infrared spectra
—compression/robust eigenvectors/searching – 3671
—spectra compression – 4488
infrared spectroscopy
—curve analysis – 509
—data acquisition/handling/search – 1907
infrared spectroscopy (reflectance), wavelengths selection – 3683
interfaces
—serial ports (high-speed) – 9333
—with spectrometers data stations – 9665
interfacial tension, from drops – 1254
labelling
—bar codes/paints containers – 7064
—paints etc/hazards codes – 8747
laboratories
—data errors detection – 7682
—information management – 3641, 3656
—networks (hierarchical) – 7675
—networks/information management systems – 9703
liquid chromatography, electroluminescence detectors – 3673
liquid chromatography/photodiode arrays, additives identification – 5300
microscopy, image storage etc – 9701
models, paints evaluation schemes & – 7707
molecular modelling – 9966
MS
—data acquisition/processing, networks/separate CPUs – 1218
—guidance by – 6953
NMR (carbon-13)
—identification/library searching/visual simulation – 2850
—polymers/multi-component systems – 2851
of micro type
—interfaces – 1930
—spectrometers – 1973
optical character recognition input – 5571
paint industry
—research & development uses – 4148
—research assistance – 2520
paint manufacture
— 4734
—automation – 2519
—databases/formulation/calculations – 4148
—raw materials/inventory/labelling etc – 3336
paint manufacturers (French) – 9962
paint manufacturers (Portuguese) – 4733, 6313
paint manufacturers (UK) – 686
particle size distribution, curve fitting – 3740
pipelines testing – 2659
plants, computer integrated manufacture – 3048
plants (multistage) modelling, costing/equipment sizing etc – 9335
plants/financial etc control, integrated – 3048
pollution monitoring, plants (chemical) – 9820
power conversion systems – 5875
printing ink manufacture, accounting/inventories/labelling etc – 7429
process control
— 4253
—batch systems – 7460, 7461
—polymerisation/implementation – 1535
—statistical process control – 4544

Computers *(continued)*
—troubleshooting/expert systems – 3425
programmes
—AAS, automation, quality assurance during – 515
—chromatography dead times – 6910
—colour difference calculation – 723
—corrosion modelling – 1060
—data acquisition/instrument control – 6930
—ellipsometry, film thickness/refractive index – 1267
—formulation – 2809
—formulation, properties/recursion – 1647
—impedance spectroscopy – 2669
—laboratories, data acquisition/handling – 510
—moisture diffusion in coatings – 1237
—paint manufacturers – 4700
—polymerisation optimisation/troubleshooting etc – 1523
reactors
—on-line measurements/prediction – 839
—pilot plants/automation/data logging etc – 1722
sieving, data analysis – 1256
simulation
—adhesives curing/heating (electromagnetic) – 8256
—agglomeration – 6137
—emulsion polymerisation – 4016
—photocurables, modelling – 5417
—polyether-urethanes networks – 5743
—polymerisation finishing steps – 1537
—polymerisation/autoacceleration – 1556
—polymerisation/solvents recovery – 1524
—sedimentation (non-steady) – 3764
—trimethylolpropane esterification – 3219
software
—expert systems tools & shells – 730
—FTIR – 3695
—information management systems – 3641
—laboratories – 7648
—molecular modelling – 9966
—scientific, proprietary, various – 7191
software (in-house), data errors protection – 7682
spectrometry
—analysis, compensation method – 6951
—databases, survey/construction/spectra evaluation – 6083
spectroscopy, software – 7675
spreadsheets, linear regression calculations – 5570
statistical process control, thickness instruments data – 6976
stresses calculation, adhesives (structural) – 8252
surfaces microanalysis mapping – 7657
testing equipment – 7444
TLC – 6076
torsional braid analysis – 6863
visual display units, monitors, colours calibration – 5254
word processors, software, modification for more columns – 9964

Concrete
abrasion, treatment by, standards – 8920
adhesives, waterproofing sheets bonding to – 9289P
adhesives/coatings, epoxies (modified) – 1882P
ageing – 7465
antifoulings, primers – 6025P
bridges, survey/deterioration causes etc – 5929
coatings
— 2684, 5990
—acrylics (proprietary), properties – 1848
—binders (org/inorg)/aggregates – 7618P
—cashew nutshell liquid, testing – 9465
—epoxies/flexibility – 6443
—epoxies/polymers (amino-functional) – 403P
—exposure conditions/types recommendations – 450
—fire resistance, on steel, primers – 1830
—organo-silicons/isocyanate groups – 4175P
—polysulphides, types/properties – 1855
—uses/market/types – 665
coloured, efflorescence – 5148
corrosion, repair, mortars (polymer-modified)/water-bornes – 2764
cracks, bridging, linings – 5140
degradation
—attack types/damage evaluation/data significance – 2679
—by volatiles from sealants – 1021
—chemical/bacterial, sulphide environments, & coatings – 389
etching, treatment by, standards – 8921
floors
—coatings, conditions/types recommendations – 450
—coatings, epoxies (modified) – 1882P
—maintenance painting – 7470
—pretreatment methods – 7472
—primers before polyurethanes – 452
high-solids coatings, acrylics/isocyanates – 2767
inserts in, plastics, adhesion promoters – 4425P
joints, sealants/sealing strips/coatings – 4246
lightweight, vermiculite, fire resistance by – 4378
linings
—discontinuities detection – 8927
—inspection, standards – 3947
marine environment, investigations/design/maintenance/corrosion etc – 9466
modified
—by epoxies/curing agents emulsions – 2608
—by resins, pipes, coatings – 3491P
painting, substrates problems/pretreatment methods – 7465
polyurethane coatings – 1851
polyurethane foam/coatings over – 5193P
pretreatment
—detergents/org acids etc – 5100
—membranes removal/surfaces etching – 8372P
—methods – 7465
primers, & adhesion of acrylics/urethanes – 5242P
repair, concrete/epoxies compsns – 2608
sealants (moisture-curable), siloxanes/organo-silicons – 6618P
shuttering, plywood (coated) – 1880P, 6834P
sulphates in, determination – 4531
walls, coatings, extensibility etc – 7622P
water repellency etc, coatings/sealers – 7546
water treatment plants, pretreatment/coatings – 9478
water-repellent coatings – 480P
waterproof coatings, polyurethanes/coal tar/clays etc – 1168P
wet
—adhesives (water-borne) – 5822P
—coatings, adhesion, epoxies – 4422P

Concrete, Reinforced

bridges
—anticorrosives (water-borne) – 3494P
—potential mapping/corrosion – 7527
cathodic protection
—anodes (titanium-based mesh) – 7530
—conductive coatings – 6741P
—conductive coatings/embedded mesh anodes – 7529
—corrosion control/assessment – 7537
—criteria/costs – 6682
coatings
— 6721
—carbonation resistance tests, accelerated – 6691
—for concrete, functions/types/testing etc – 5991
—for protection/repair, acrylics – 2769
—requirements – 2768
coatings etc, for concrete/rebars – 7543
concrete resistivity/rebar potential – 9458
corrosion
—books – 7544
—chlorides/cracking – 9410
—coating rebars or concrete – 2696
—control, methods – 4317
—depassivation time/diffusion/equations – 5157
—impedance during setting/subsequent – 6686
—impedance measurement – 6736
—modelling – 9461
—monitoring, electrochemical measurements – 7528
—parameters/repair – 8513
—rates, electrochemical measurements – 380
—rates, polarisation measurements – 6702
—rebars, polarisation resistance – 1767
—repair/steel cleaning – 7555
—stages/factors – 7553
corrosion (marine, coastal), factors – 9440
corrosion (marine)
—fouling & – 7539
—measurements/actual – 9405
corrosion (pitting), rebars – 3481
corrosion inhibitors (volatile), incorporation/insertion – 8429P
dams, cracks repair, epoxies – 2607
electrochemical measurements
— 6737
—impedance/charge transfer resistance – 6728
hydration/carbonation/chloride penetration – 7521
light-weight, rebars, coatings – 7616P
offshore structures, rebars corrosion – 5916
quays etc, degradation/inspection/repair – 3484
railways (Japanese), corrosion/repair – 7526
rebars
—coated/uncoated, electrochemical measurements – 6718
—coatings, adhesion promoters/diffusion control – 4425P
—galvanised steel – 6683
repair
— 5990
—testing prisms, marine environment – 2692
sealers (penetrating), silanes, acrylics over – 3479
spalling, pressure required, determination – 9401
towers (water), repair/materials – 3464

Condensation
control, thermal insulation – 3591P
dew, repellent coatings – 3587P
sheets against, layers on – 5999P

Condensation Polymerisation
bulk, polymers participitation/fillers/pressure – 3174
copolymerisation, review – 3199
definition etc – 3182
dispersion polymerisation, factors/use, review – 3176
formulation, computers – 2347
kinetics
—modelling – 6452
—unequal reactivities, review – 3178
MWD, theory – 3180, 9051
NADs, methods etc – 3192
solid-state, monomers/prepolymers, review – 3184
solution, types/polymers (various), review – 3175
stereochemistry, head-to-head etc, review – 3170

Conductive Adhesives
comparison, three different binders – 6584
electrical components, copper compounds – 8267P
electrocoating – 6601P
emulsions, carbon black/binders – 9590P
epoxies/maleimides (polyfunctional) – 1699P
fast-curing, epoxies/silver – 5818P
heat resistance, epoxies/maleimides (polyfunctional) – 1699P
metal powders manufacture for – 6378P
particles (metal-coated), platinum/palladium/gold – 2578P
pigment compsns, base resins/conductive pigments – 3977P
radiation-curables, semiconductors bonding – 2578P
silver – 2271P
thixotropy, silver flakes/globules, epoxies/silica & – 9282P

Conductive Coatings
acetylenes polymers – 4061
acrylamide copolymers (substituted) – 1172P
acrylates (polyfunctional), oxides (silanes-coated) – 2794P
ammonium compounds, of phosphorus acids – 4439P
ascorbic acid derivatives – 7287P
carbon black, content/properties/temp – 2252
chromium oxide/phosphorus acids etc/metal powders – 445P
coatings on metals (sprayed) on particles/resins – 8433P
coke/binders etc – 7609P
copper
—amino acids/phosphorus-containing titanates – 9616P
—antioxidants, borates/amines products – 8534P
—coupling agents (titanate) – 6011P
—cresol-formaldehyde resins – 3593P
corrosion inhibitors, for pigments protection – 4438P
durability, antioxidants – 8553P
electrodeposition, epoxies/metals simultaneous – 7531
electromagnetic shielding
— 5217
—selection/types/application/performance etc – 1132
—testing – 5198
flexibility, titanates (coated)/oxides (coated) – 6003P
for concrete, cathodic protection – 7529
for concrete (reinforced), cathodic protection – 6741P
for plastics
— 5219
—polyurethanes/spiro compounds etc – 9564P

Conductive Coatings *(continued)*
—polyurethanes/spiro resins – 7623P
for steel (zinc-coated), acrylic/urethanes copolymers, chromates etc – 1082P
glucosaccharoascorbic derivatives – 8552P
intermediate coats, against polishing dusts – 8538P
metal powders, oxidation stability – 6006P
metal powders manufacture for – 6378P
metal powders/phosphonic acids etc – 6006P
nickel, testing/properties – 5198
organo-silicons, silicon chains double/single bonds alternating – 3326P
oxides (coated), by silanes, acrylates (polyfunctional) & – 2795P
oxides (treated) – 774P
pigment compsns, base resins/conductive pigments – 3977P
polymers, from ammonium (quaternary, unsatd) – 1509P
polyphenylenevinylene – 6007P
primers for, polyamides/polyimides – 3597P
radiation-curables
—acrylates/oxides (silanes-coated) – 2794P
—polymerisables/aryl systems etc – 3857P
resistors (variable), durable sliding contacts – 6008P
silanes/zirconium compounds etc – 1169P
silver – 2271P
silver alloys – 467P
thiophenes polymers – 5206P
transparency
—silanes/oxides – 3598P
—vinyl chloride copolymers/metal salts – 3594P
ultraviolet-curables, photoinitiators/peroxides/polymerisables – 8766P
water-borne, carbon black/binders – 9590P
Conductive Inks
carbon black, content/properties/temp – 2252
printing (screen)
— 2602P
—lines uniform height – 3400P
silver – 2271P
Conductive Pigments
acicular/non-acicular blends, costs reduction – 9597P
corrosion inhibitors for – 4438P
flake, tin oxides/titanium dioxide layers – 5636P
graphite (nickel-coated) – 3960
hiding power – 5636P
manufacture, metals from salts – 20P
nickel-containing, types – 3960
oxides (treated) – 774P
particles (metal-coated)
—alkoxides hydrolysed on cores – 3977P
—alkoxides hydrolysis on seeds – 1480P
polymers &, uses/properties – 9056
properties/morphology/behaviour – 7953
silver, from nitrates – 2271P
titanium dioxide (coated) – 3118P
zinc oxide (coated), by carbon, nm layers – 2261
Conductive Polymers
acetylene polymers
—from cyclooctatetraene – 2376
—precursors (soluble) – 7301
blends
—insulating polymers & – 9048
—with other, from aq, doping etc – 82
from phthalonitriles polymers – 1609
polymerisation, on polyamides films – 9547P
polyquinolines, by electropolymerisation – 8122
properties – 9056
quinolines cross-linked/fused to each other – 9142P
siloxanes/carbazoles groups/electrochemical oxidation – 8574
soluble, aniline (substituted) polymers – 2455
synthesis, in situ in oxides gels – 8047
synthesis/doping/characterisation/uses, review – 9053
thiophene polymers (doped) – 9174
types/electronic structure/processability/orientation/uses – 4007
uses, review – 2342
Conductive Sealants
nickel, polysulphides &, paintability etc – 9324
Conductivity, Electrical
acetylene polymers – 3204
acetylene polymers (pyrolysed) – 4125
carbon black – 2252
coatings
—binders/nickel-coated fibres – 7597P
—moisture absorption/corrosion – 9431
compositions, emulsion polymers, particle size (low) – 5025P
compounds with, uses, review – 2252
copper sulphide/polymers particles – 1475P
copper(I)/diaminoanthraquinone oligomers – 7280
cyclophanes polymers – 2397
electrocoating layers, after stoving – 2549
electron beam-curables
— 2174P
—pastes – 3857P, 3858P
ferrous sulphate, solutions – 2020
fibres (coated), by oxides (conductive) – 3581P
films, electropolymerisation products – 4006
films (polymer), ion beams treatment – 4097
films surfaces, polyimides/cobalt compounds – 2458
flame retardants, oxides – 7591P
ionic, polymers, review – 2029
pastes
—cresol-formaldehyde resins/copper – 3593P
—photopolymerisables, printed circuits – 5489P
—thixotropy, silver flakes/globules, epoxies/silica & – 9282P
polymers, review – 2007
polymers powders (metal/surfactants coated) – 2613P
polymers/pigments, uses/properties – 9056
polyphenylenes, electropolymerisation synthesis – 4897
polythiazyls, spacer units/doping – 183
pyrroles (substituted) polymers – 6492
pyrroles polymers, perchlorates – 4959
silanes, polymers (ladder) types – 4980P
thiophenes derivatives/electron donors – 8003
thiophenes polymers
—doping/self-doping – 4121
—functional groups – 4124
Conductivity, Thermal
acrylamide polymers/metal powders – 6014P
adhesives, polyimides/powders – 9264P
Confined Spaces
accidents, cases (UK) – 561
ventilation, oxygen deficiency removal, experiment/data analysis – 4583
welding etc, hydrocarbons exposure – 4585

Conservation
cellulose esters/nitrocellulose, factors – 9187
monuments (historic), polymers, micro-organisms & – 3521
paintings, transparent coatings – 4910
polymers/resins in, general/types/properties – 3098
stone
—fluoropolymers – 8412
—linseed oil etc, against lichens – 2735P
Consolidation
xylylene monomers polymerisation (in situ) – 283P
Construction
machinery/equipment, finishing, plants/coatings (two-component) – 5085
vehicles (mobile), electrocoating, plants – 3433
Construction Industry
See also building industry & building(s) entries
UK, market/future/quality – 8812
Consumer Protection Act 1987
comparison, with EEC directives – 1333
product liability – 9972
standards (UK), approved/under consideration – 4770
Contact Angles
chlorotrifluoroethylene polymers, surface modification – 156
corrosion inhibitors effects on – 9436
determination
—cameras (video), unhurried – 1255
—drops on surfaces – 8290
—drops, contact diameter etc – 8696
drops size &, temp/vapours effects – 3761
dynamic, from capillary forces, problems – 3749
equilibrium, from advancing/receding pair – 5332
fluoropolymers
—hysteresis/plasma treatment – 8679
—surfaces modification & – 4090
from surface tension/surface free energy – 4549
gels/liquids, for liquid/liquid – 6163
glass, silanes mixtures treatment – 3722
polyethylene, surfaces modification/polarity/ionisation – 1247
polymers – 2008
polymers/liquids, surface free energy – 1241
spreading pressure from – 5342
substrates (charged) – 8663
surface free energy from
— 2912
—liquids/substrates in liquids – 5322
surface tension & – 2917
surfaces (heterogeneous), equations – 6135
Containers
bulk, intermediate, flexible, safety – 3790
cargo, anticorrosive primers (proprietary) – 3465
coatings, epoxy/phenolics etc – 4427P
decoration, methods comparison/uses – 2595
electrocoating, multi-cell high-speed – 333P
for electronic components, transport/conductive coatings – 5025P
for food
—closures, primers/topcoats formulation – 9575
—coatings, epoxies/curing agents – 4066P
—durable minus one hundred and eighty deg C – 8555P
for paints
—examples/tinplate – 8748
—handles attachments for wire loop – 9374P
—labelling, bar codes – 7064
—lids with colour capsules – 8562
for petroleum gas (liquefied), fire resistance/insulation role – 4385, 6781
from glass
—coatings, development/joint ventures – 5538
—labels adhesion, factors – 6873
from metals
—coatings, impedance spectroscopy – 1067
—corrosion, testing, review – 3477
—manufacture/finishing, emissions/reduction – 8724
from plastics
—coatings, polyamide-imides – 5755P
—for paints, lids/drop resistance – 3791P
—for paints, stacking distortion resistance – 592P
—for paints, versus metals – 7063
—pretreatment/printing – 5114
—ultraviolet-curables then printing/stamping – 3027P
—water-bornes, vinylidene chloride polymers – 4403P
from steel, advantages – 2981
levels in, determination, methods – 9639
lids from plastics, drop-resistant fit – 3791P
management/disposal etc – 3789
transport, blasting – 1729
Contaminants
carbon dioxide/water, in curing agents – 4052
detection
—on substrates, methods – 2639
—surfaces/electron emission (optically-stimulated) – 6899
fibres, paint films – 6130
FTIR – 4524
on metals, types/removal/rust-tolerant systems etc – 8379
on steel, salts (soluble), detection – 7923
on substrates, & removal – 4267
on substrates/primers, coatings over – 353
salts, residual, coatings/corrosion resistance – 4312
ultraviolet-curables, effects – 5426
Contamination
blasting abrasives residues – 2634
coatings, nuclear installations – 4774
dusts, painting &, dusts electrostatic attraction – 2638
petroleum products, zinc/silicate paints & – 4328
powder coatings, defects v matting – 2561
Control of Industrial Air Pollution (Registration of Works) Regulations 1989
procedures etc, joint circulars – 4744
provisions – 4759
Control of Industrial Major Accident Hazards (Amendments) Regulations 1988
provisions – 712
Control of Pesticides Regulations 1986
pesticides (approved), lists – 4799
Control of Pollution (Amendment) Act 1989
provisions – 8859
Control of Pollution (Consents for Discharges etc) (Secretary of State Functions) Regulations 1989
provisions – 9975
Control of Pollution (Discharges by National Rivers Authority) Regulations 1989
provisions – 9977
Control of Pollution (Special Waste) (Amendment) Regulations 1988

provisions – 1391
provisions effects – 7913
Control of Pollution (Special Waste) Regulations 1980
amendments – 1391
Control of Pollution Act 1974
amendment – 8859
wastes disposal, guides – 8960
Control of Substances Hazardous to Health Regulations 1988
air pollution – 9971
awareness etc of, questionnaires – 5579
codes of practice – 2225
employers' responsibilities – 1389
fumigation, codes of practice – 2226
guidance notes, monitoring – 4762
guidelines, Paintmakers Association – 5587
implications – 2223
inventories, preparation/updating – 6334
paint industry, solvents/risks assessment – 7766
pesticides, codes of practice (draft) – 1394
provisions – 714
records, content/format – 8862
risk assessment, case histories – 3083
risks/measures assessment, guides – 2227
terms etc Committee minutes – 4767
Convection
liquids, layers, cells/solute/accumulation at interfaces – 4537
Conversion Coatings
application, stages – 7476
for aluminium
— 1040
—developments/methods – 7490
for copper – 5890P
for titanium, fluorides/nitric/sulphuric etc – 5889P
for titanium/titanium alloys – 4289P
for zinc, molybdates – 1042
for zinc/zinc alloys, chromium(VI)/phosphates etc – 6670P
sealers over, vanadium compounds etc – 8356P
selection – 7476
silicodising – 9337
types/advantages etc – 5885
Conveyors
drums & – 9826
power-and-free, painting lines/vehicles/controllers – 323
proprietary – 4260
Cooking
equipment, radiating bodies, coatings, borosiloxanes etc – 5237P
Cooking Utensils
coatings
—dispersions, fluoropolymers – 1142P
—fluoropolymers adhesion methods – 8580
Cookware
See cooking utensils
Cooling Systems
aluminium alloys, autophoretic coatings – 9435
stainless steel, corrosion/repair, epoxies – 2689
Cooling Towers
fouling, control, chlorine/bromides – 9525P
Cooling Water
See water (cooling)
Copolymerisation
composition control, equations – 5674
composition/conversion/MW – 5285
condensation polymerisation, review – 3199
cross-linking &, modelling, multistage – 87
cyclopolymerisation – 3162
emulsion polymerisation
—continuous processes, modelling – 3200, 4023
—kinetics/structure/theory – 829
—kinetics/theory – 7296
—kinetics/theory/pseudo-homopolymerisation – 8063
—modelling – 8061
—modelling/pseudo-homopolymer approach – 1548
—radicals diffusion from particles – 9054
—reactors/modelling – 1547
free-radical polymerisation, penultimate unit effects, methods – 5673
in clathrates – 3167
kinetics
—book chapters – 2371
—models/experiments, book chapters/review – 2368
—propagation rates, Mayo-Lewis models – 7306
macromonomers, reactivity/side groups – 6433
methyl methacrylate/vinyl acetate, reactors in series – 8105P
miniemulsions, co-surfactants role – 3228
models, kinetics, composition/sequence lengths etc, review – 2374
olefins
— 3213
—Ziegler-Natta catalysts, review – 3213
polymerisation (anionic), review – 2373
polymerisation (cationic)
—review – 2372
—ring-opening, review – 2370
siloxanes (cyclic) – 3312
solid-state – 3160
styrene compounds – 2377
termination, kinetics – 2349
Copolymers
See also alternating copolymers, block copolymers, graft copolymers & hydroxylic copolymers
chromatography, fractionation (cross-) – 1941
composition
—distribution, high conversion, determination/theory – 2895
—equations – 2374
—GPC fractions – 6058
—GPC/chromatography combinations – 3662
—HPLC (reverse phase), fractions & – 6941
—NMR (Fourier transform) – 3704
—pyrolysis/GC – 6112, 6944, 9724
—TLC – 6107
—ultraviolet spectroscopy etc – 1921
composition distribution, HPLC (gradient) – 9679, 9699
composition/MW distributions, theory/determination – 7298
emulsion polymerisation, composition distributions – 1567
GPC
— 3099
—peaks broadening – 1974
light scattering – 1962
liquid chromatography/liquid chromatography – 1909
neutron scattering – 1984
NMR – 1917
pyrolysis/GC
— 3669
—book chapters – 1951

Copolymers *(continued)*
viscosity (intrinsic), equations, MW/composition – 1901
Copolymers, Carboxylated
emulsion polymerisation presence – 5689P
treatment, ion-exchange resins in – 4184P
Copper
See also pipes
adhesion to
—adhesion promoters – 3154P
—polyamide-imides – 7641
adhesives – 1155P, 1156P
anticorrosive pigments coated by – 10P
antifoulants, pollution (marine), biota effects, review – 7786
antifoulings
—cuprous oxide/acrylics/rosin & – 5958P
—dithiocarbamates & – 8476P
chelates, cupric oxide from – 4831P
coatings
—co-ordination with substrates – 4436P
—corrosion resistance – 7641
—polyvinyl acetal/phenolics & coupling agents – 1870P
complexes, colourants – 3103
conductive coatings
—amino acids/phosphorus-containing titanates – 9616P
—antioxidants, borates/amines products – 8534P
—cresol-formaldehyde resins & – 3593P
conversion coatings – 5890P
corrosion
—by aromatics, testing – 8884
—by petroleum products, detection – 8878
corrosion inhibitors
—aldehydes/amines mixtures – 5932P
—surfaces analysis – 8639
determination
—in water (sea) – 532
—voltammetry/electrodes (modified) – 6932
electrodeposition, epoxies simultaneous – 7531
electrodes, in perchlorates/chlorides, chemistry – 4318
foils
—bonding, by borosiloxanes – 1002P
—bonding, to boards etc, varnishes – 6824P
—bonding, to laminates, varnishes – 6823P
migration, into adhesives, prevention – 269P
mining, wastes, pigments (orange) – 8991P
powders
—coated, coupling agents – 6011P
—gel coats, fouling control – 5962P
—manufacture, diketones complexes reduction – 6389P
primers – 1155P, 1156P
sprayed, fouling control, between coatings – 8461P
suspensions (aq), polyvinyl alcohol composites – 9012
verdigris (synthetic) formation on – 8318P
Copper Alloys
corrosion inhibitors, aldehydes/amines mixtures – 5932P
sprayed, fouling control, between coatings – 8461P
Copper Carbonate
powders, coatings, cement & – 2742P
Copper Compounds
antifoulings
—dithiocarbamates & – 8476P
—ureas & – 8460P
autoxidation presence, with/without fructose – 42
complexes, with polymers, adsorption on substrates – 8042
heat-curables, iodonium salts (polymeric) & – 9862P
polymers (chlorinated) &, chalking resistance etc – 8431P
wood preservatives
—tannins (condensed) & – 9516
—testing – 5949
wood preservatives (water-borne) – 428P
Copper Driers
See driers
Copper Ions
degradation presence, polyethers, prevention – 873P
determination, spectrometry, chelates, presence Fe/Zn – 3659
release, with chloride ions, fouling control – 6767P
removal, from water, micelles ultrafiltration – 8730
Copper Oxide
treatment with, & phosphorus compounds – 5892P
Copper Sulphide
adhesives (conductive) – 8267P
pigments (black), polymers particles treated by – 1475P
Copying
films (polymer) – 8490P
Copying Materials
See also carbon papers
Copying Materials, Pressure-sensitive
microcapsules, styrene/butadiene copolymers etc & – 2599P
Copying Papers, Carbonless
solvents, diisopropylnaphthalenes – 5640
Cork
ground, ablative coatings – 1884P, 6848P, 9634P
Corona Discharge
plastics, masking materials, paints adhesion – 1741P, 1742P
treatment with
—abietates (hydrogenated) on others – 4236
—covered-roll/bare-roll treaters – 4278
—equipment – 3440
—ethylene copolymers/aluminium – 5874
—plastics, peroxides groups/grafting – 3442
—radiation-curables & – 316
—surface tension determination – 4551
Corporacao Industrial do Norte SA
plants/products/computers – 4733
plants/products/computers/acquisitions – 6313
Correction Fluids
acrylics/titanium dioxide/coupling agents – 2601P
Corro-coat (Malaysia)
powder coatings, plants (Malaysian) – 7866
Corro-Coat UAE
powder coatings, manufacture – 7898
Corrosion
See also filiform corrosion, fretting corrosion, galvanic corrosion, pitting corrosion, marine corrosion, stress corrosion, stress corrosion cracking, rust(ing) and flash rusting
acceleration, polymer chemistry – 2672

Corrosion *(continued)*
air pollutants
—laboratory tests – 8404
—test chambers results – 383, 384, 385
—weathering (natural) – 8426
Antarctica, rates – 2671
automobiles, in-service/Which? – 4302
bacteria (sulphate-reducing) – 2719
bridges
—concrete, UK – 5929
—maintenance & – 8396
—San Francisco, & control – 9449
by micro-organisms, cooling systems, treatment – 2689
by pyromellitic acid, & materials choice – 382
combustion products, from plastics – 3775
concrete (reinforced)
— 8513
—chlorides/cracking – 9410
—impedance measurement – 6736
—monitoring methods – 7528
—railways, repair & – 7526
concrete/iron interfaces – 6686
containers, testing, review – 3477
control
— 9195
—agricultural equipment, waxes – 9460
—automobiles, design/measures – 8389
—book chapters – 7224
—book chapters/review – 6696
—coatings (org), review – 8424
—coatings, book chapters – 743
—concrete (reinforced), cathodic protection – 7537
—effectiveness, microsensors – 9413
—expert systems – 7542
—expert systems, materials selection – 5576
—handbooks/glossaries/directories – 3093
—impedance spectroscopy – 8406
—impressed currents, controllers (feed-back) – 4319
—impressed currents, fouling control & – 6761
—inhibition, surfaces analysis techniques – 9682
—metal parts reconditioning – 8417
—mortars sealing against alkali production – 6620P
—oil fields water injection – 8411
—paper/pulp mills – 7533
—pigments mechanisms – 8962
—pipelines interiors, methods – 9351
—plants (chemical), developments – 8401
—power stations – 5924
—power stations, wastes combustion plants – 1760
—rebars, coating rebars or concrete – 2696
—rebars, methods comparison – 2693
—research, universities – 7554
—ships' hulls, coatings/cathodic protection – 6685
—ships, principles/environment – 6716
—standards (German, East), changes – 6358
—tankers, options – 8385
—tanks (storage), water tanks – 391
—vehicles (motor), maintenance – 4320
copper
—by aromatics, testing – 8884
—by petroleum products, detection – 8878
corrosivity, classification/schemes/aircraft fleets – 8423
costs, Poland – 9432
cracking (fatigue), offshore structures – 3467
definitions – 1413
design factors – 9193
duplex system, zinc (alloy) type etc – 5920
electrochemical measurements
— 4311
—coatings/impedance, data interpretation – 8393
—electrochemical noise, steel (coated) – 2729
—equipment – 6709
—equivalent circuits – 1064
—galvanised steel/impedance/data interpretation – 8390
—impedance spectroscopy – 8414, 9453
—impedance, techniques/precision limitations – 8415
—steel (coated)/sulphuric/ions – 4309
—surface areas/corrosion rates etc – 1061
electrochemical noise, equipment/uses – 9406
electrochemistry &, techniques relevant to – 736
electron microscopy (thermal wave) – 9702
electronic equipment, enclosures/sealants – 8394
expert systems, & databases integrated with – 707
factors/control – 9399
fatigue/corrosive environments, steel (coated) – 4301
galvanised steel, coatings, interfaces, SIMS – 9721
grinding media – 3418
hydrogen ion concentration, determination – 8640
impedance spectroscopy – 5905
inhibition, polymer chemistry – 2672
intergranular, zinc, adhesion & – 373
iron, in water, chemistry – 7556
joints, adhesives, adhesion/durability/polymer chemistry – 2672
localised
—aluminium alloys – 4311
—electrochemical measurements – 6706
—fouling (marine) & – 5908
management – 2662
marine environment – 3954
mechanisms, concepts/review – 9463
metals, by emissions from sealants – 1021
micro-organisms &
— 7576, 9408
—case histories – 3482
—cathodic half reaction/stainless steel – 9416
—control – 9444
—electrochemical measurements, cells – 4350P
—electrochemistry – 3483
—marine/green rust/sulphate-reducing – 5917
—mechanisms/control – 9438
—test cells/electrochemical measurements/communities studies – 9419
micro-organisms etc & – 3953
modelling, computers/thermodynamics/free energy – 1060
moisture levels, absolute not RH – 6994
monitoring
—electrochemical measurements, even polarised – 5924
—environmental, monitors (continuous) – 374
—microsensors – 9413
—presence cathodic protection – 1068
monomers (residual) & – 2672
oxygen reduction
—peroxides formation – 394
—products, alkaline media – 394
paint defects, spatial distribution – 8409
phenolics &, volatiles/contact – 3473

Corrosion *(continued)*
pipelines, control/monitoring, computers/expert systems – 7542
pipelines (submarine), risks assessment/computers – 386
pipelines (underwater), & control, twenty years data – 7522
plants, fertilisers/acids industry – 5135
plants/risks/symptoms/causes/remedies – 2662
polarisation resistance (differential) – 5903
prediction, computers, books – 745
principles, book chapters – 7538
processes (cathodic) – 6689
products
—diffusion across coatings – 9462
—FTIR/Raman spectroscopy – 8615
—MS – 4486
—steel (zinc-coated)/electrocoating – 5159, 5160
radiation & – 5913
rate, pipeline coatings, moisture/defects/soils – 5151
rate/depth, equations – 5155
rates
—concrete (reinforced), polarisation measurements – 6702
—determination, electrochemical measurements – 4315
—determination, microsensors – 9413
—pseudo-inductive electrochemical impedance response – 9467
—rebars, electrochemical measurements – 380
rebars
— 2693
—book chapters – 7538
—books – 7544
—concrete potential mapping – 7527
—concrete repair/steel cleaning – 7555
—control – 4317
—control, measures – 7543
—depassivation time/diffusion/equations – 5157
—electrochemical measurements – 6728, 6737
—environment aggressivity classification – 7543
—galvanostatic transients – 2678
—marine environment (coastal), factors – 9440
—measurements/actual – 9405
—mechanisms/conditions favouring/measurement – 2679
—monitoring, electrochemical noise – 3471
—monitoring, methods, on-site/laboratory – 7516
—polarisation resistance – 1767
—spalling – 9401
—stages/factors – 7553
research, universities – 7554
salts (blown), distance inland – 2661
scab, testing (cyclic), improvements – 1781
scrubbers
—expert systems – 1772
—flue gases, outlet ducts – 5924
ships, during operating life, repair costs – 371
smoke & – 7550
steel (coated), & control – 6720
steel (zinc-coated), adhesives durability – 2569
testing
—definitions – 1413
—planning, goals/objectives/strategies – 1766
—standards (DIN/ISO) – 4784
—synthetic environments for – 3951
transporters (road), repair etc & – 4324
tubes, through-corrosion, adhesion losses – 4458
under films
— 6707
—barrier effects/non-adherent coatings, measurements – 3474
—cans (coated) – 376
—disbonding preceding – 390
—electrochemical measurements – 6723
—electrochemical measurements/analysis of solution under film – 388
—permeation/electrical resistance/adhesion loss – 8576
—steel (zinc-coated)/paints, mechanisms – 390
USA, California, rates, galvanised steel/nickel – 1057
vehicles (motor), chemical trailers, causes/control – 2674
weathering
—sites corrosivity determination – 3466
—sites corrosivity parameters – 3466
zinc coatings, products, marine/accelerated – 8380

Corrosion Inhibitors
absorption, by phosphate coatings – 5112
acrylic acid copolymers/zinc, phosphonics etc & – 8439P
amines (aralkyl) – 8430P
ammonium compounds (quaternary) blends – 346
anticorrosives, soluble/solubilised non-hazardous – 3486P
aspartic acid polymers – 8403
benzimidazoles – 392
benzothiazolylmercaptosuccinic acids – 2656
benzothiazolylthiosuccinic acids – 2655, 6750P
benzoylallyl alcohols, against hydrochloric, kinetics – 9422
benzylamine (hydroxylated) – 1073P
bituminous coatings – 6533
blasting (wet), selection/mixing – 1737
blends, temporary protection, polyvinyl butyral (modified) etc & – 4344P
cathodic protection & – 4298
chelating agents
—amines (hydroxylated) – 4335P
—benzylamine (hydroxylated) – 4336P, 4337P
conductive coatings, pigments protection – 4438P
dibenzylamine (hydroxylated) – 1074P, 9487P
dicyclohexylamine salts – 400P
electro-active org polymer materials – 1789P
enzymes, in-can/applied coatings – 2682
expert systems, inhibitors selection – 5572
fatty acids (epoxidised) – 393
flavenoids – 1797P
for aluminium, phosphoric acids/amines systems – 2712P
for copper, aldehydes/amines mixtures – 5932P
for steel (pre-corroded) – 1059
hazards – 7534
lubricating coatings, sulphonamides (carboxylated)/amines (cyclic) – 3499P
mechanisms – 1457
mechanisms/surfaces analysis – 8639
microencapsulation – 9423
molybdenum – 5141
odours-free – 5173P
paint industry, review – 9417
phenol/amine-formaldehyde resins – 1072P
phosphates – 66P
phosphates/vanadates – 378
phosphonic acids/zinc salts/polymers (sulphonated) – 5166P

Corrosion Inhibitors *(continued)*
pipelines (submarine), pipes pretreatment – 5161
plastics/wood products – 9825P
polyamines (aralkyl) – 8430P
polyesters, functional groups – 1791P
release (controlled) – 9423
soaps (metal), hydroxyaryl groups – 5173P
structure/mechanisms/quantitative approach – 9437
tannins, types/properties (Polish) – 9425
triazines, complexes, antifoulants as well – 3524
types/summaries/review – 8427
types/use factors – 7556
types/uses/mechanisms – 9456
volatile
—amines/acids (org) products – 6755P
—concrete (reinforced), incorporation/insertion – 8429P
—contact angles/interactions & – 9436
—interactions with substrates – 9446
water (cooling), films from/Auger/mechanisms – 9464
zinc phosphonates – 4298
Corrosion Resistance
acrylates, phosphinates groups – 1640P
acrylic/urethanes copolymers, chromates etc & – 1082P
acrylics – 856P, 6704
acrylics/sols after chromating – 405P
adhesion promoters, zircoaluminates – 2297
adhesives (epoxy) – 4223P
aluminium, coatings/adhesion (wet) – 2657
aluminium (anodised) – 1442
antifoulings, epoxies/curing agents/fillers – 9529P
antimicrobial activity – 3523
automobiles
— 5153, 6601P
—products (proprietary) – 6730
—trim/painted metals samples, testing – 3472
bisphenols/amines polymers – 4332P
blast cleaning
—abrasives, various mixtures – 7491
—slag (copper) – 9369
cathodic protection, standards ambiguities/lower cathodic protection levels – 379
cementitious compsns, acrylics/nitrites – 1805P
chromate coatings
— 1751P
—chromium(VI)/chromium(III)/colloids/anions – 1047P
chromium compounds
—silica/silanes/polymers products & – 1744P
—silica/silyl groups products & – 1792P
cleaning compsns – 8355P
coatings
—appliances (gas-fired) – 5912
—doors/windows, standards – 6359
—fertilisers plants – 6731
—over rust, tolerant systems – 8379
—pipes, fluoropolymers blends – 6822P
—polymers, review – 6714
coatings/elastomers/sealants – 4212
coatings/treatments for, books – 744
coil coatings, strontium chromate/tripolyphosphate – 3108
conductive coatings – 467P
conversion coatings, for zinc, molybdates – 1042
conversion coatings/Cr(VI)/Cr(III) conversion – 6004P
determination
—definitions – 1413
—humidity cycles/corrosive dips – 1414
—marine, test environments – 5911
—methods – 4305
—methods/metal finishers – 5921
—weathering sites characterisation – 1418
diisocyanates/allyl ethers/epoxy acrylates products – 5169P
electro-active org polymer materials – 1789P
electrochemical measurements
— 744
—aluminium pigments, AC/DC – 5923
—anticorrosives/zinc compounds – 2256
—barrier/inhibition effects separation – 1062
—cathodic bonding efficiency/water uptake – 9434
—data analysis – 5914
—electrochemical potential – 6717
—film thickness – 6692
—impedance spectroscopy – 2664, 9433
—magnesium/treatment/coatings – 8405
—metals (coated)/impedance spectroscopy – 1067
—noise monitoring – 1780
—review – 2690
electrocoating
—application (wet-on-wet) – 1793P
—electroplating &, same bath compsn – 973P
—metals codeposition – 7531
—silyl/silanol groups – 5019P
electrocoating (cathodic)
— 1665P
—epoxies – 5032P
—epoxy/amine adducts – 6554P
—epoxy/amine adducts (modified) – 4186P
—wet-on-wet – 5020P
electrocoating (cathodic)/polymers (unsatd) – 402P
electropolymerisation coatings – 375
epoxies, storage/weathering before application 1284
epoxies (modified), urea resins & – 943
epoxies (modified)/silica – 1799P
epoxy/polyesters, clear/pigmented – 1054
epoxy/polyesters (modified), polyamides etc & – 8443P
fasteners, plating/electrocoating – 9505P
fluoropolymers/vinyl chloride polymers/adhesives layers – 6751P
galvanised steel
— 2654
—mechanisms/surface films/pH – 2653
high-solids coatings, asphalts/petroleum sulphonates etc – 1800P
hot-melts – 258P
insulation, silanes/powders/acids – 2703P
laminates
—plastics/steel, bonding – 6594P
—steel/resins/steel, plating outer – 2713P
linings
—application/corrosion – 8376P
—pipes – 7540
lubricating coatings – 1154P
marine coatings – 1133
mastics, epoxies – 3462
mechanisms – 362
metals (coated) – 1773
offshore structures, repair coatings – 4308
phosphating
—zinc phosphate/calcium ions – 5861
—zinc phosphate/polyacrylic acid – 322

Corrosion Resistance *(continued)*
pigments (metallic), location/type – 1049
pipeline coatings, pretreatment/application – 305
pipelines (coated) – 8871
pipes, chromating/fusion-bonded coatings – 9359
plants construction materials, design/testing – 5926
plasma polymers, deposition conditions – 1765
plasma treatment of coatings – 1753P
plastisols – 1719P
polyurethanes (two-component) – 2701P
positrons annihilation & – 372
powder coatings
— 983P
—corrosion resistance/components – 9476
—epoxies/particles/glass powders – 7413P
—for steel (zinc-coated), defects & – 6725
—polyesters etc – 5800P
prediction, moisture absorption/conductivity changes – 9431
railway stock – 1778
ratings/survival analysis – 1761
rebars
—calcium-containing layers – 9475
—epoxies – 7551
silicate paints, fluosilicates – 3478
standards – 4306
steel, surface condition/pretreatment/painting & – 5899
steel (coated), databases – 367
steel (metal-coated)
—& electrocoating – 6703
—binders/stainless steel & – 404P
—chromating & acrylics/silica – 4345P
—chromating/epoxies & – 6752P
—coatings – 8402
—coatings, Zn/Co & Zn/Ni layers – 398P
—oxide etc modified, coatings & – 7560P
steel (nickel-coated), coatings – 5939P
steel (zinc-coated)
— 2675, 5928, 6733
—chromating/coatings – 3496P
—coatings – 8440P
—epoxies – 1803P
—two layers alloys – 5174P
—zinc dust paints – 1089P
—Zn alloys – 6739
—Zn/Fe alloys – 8402
—Zn/Ni alloys, coatings – 4327
tannins
— 2676
—mechanisms/review/results – 5143, 5147
testing, cages immersion below offshore structures – 2733
transparent coatings – 4331P
treatment, with ions/lasers – 9456
ultraviolet-curables, ultraviolet full depth – 7823P
underground coatings, holidays depth effects – 6715
vinyl polymers systems – 205
water-bornes, acrylamide polymers – 1668P
waxes, transparency improvement – 406P
weathering (accelerated), polarisation (cathodic)/scribes – 2667
weldable coatings
—aluminium/stainless steel powders – 5934P
—primers/topcoats – 2711P
—zinc dust paints (modified)/steel (zinc-coated) – 2680
wheels, silica/silanes condensates/glycols etc – 8543P
zinc dust paints/acrylics – 1763
zinc/silicate paints
— 5139
—treatment – 4341P
Costing
plants (multistage), modelling – 9335
Costs
abrasives, steel grit recycling/non-recyclable slags – 1730
adhesives (water-borne) – 5043
alkyds synthesis – 120
blasting (wet) – 1737
cathodic protection
—concrete (reinforced) – 6682
—offshore structures, coated/uncoated – 6697
chemical industry (Italian) – 1357
colour matching, minimisation – 6031
colour matching allowing for – 1180, 6856
corrosion, Poland – 9432
degreasing, solvents v detergents – 3441
drums handling systems – 9826
emulsion paints, formulation & – 7725
high-performance coatings
— 7525
—comparison – 5149
infrared drying, ovens (electric) – 5083
maintenance, bridges, next ten years UK – 5929
maintenance/inspection – 5150
metallisation, of paper, direct v transfer – 5437
overprint varnishes (ultraviolet-curable) – 5418
paint manufacture, reduction, USSR – 7833
paint stripping, salts (molten) – 6677
paper coatings (electron beam-curable) – 8754
phthalocyanines manufacture – 8970
prices & – 9908
radiation-curables, cost/performance analysis – 5496
raw materials, increases causes – 3037
repair costs, ships/corrosion – 371
road marking compsns – 7607
solvents (waste), recovery/minimisation economics – 3877
ultrafiltration, automobiles electrocoating – 2547
ultraviolet curing – 5109, 5407
wastes, components etc – 3876
Couette Viscometers
See viscometers (Couette)
Coumarins
indene coumarin fractions, formaldehyde resins – 7326P
photocurables, polymers (unsatd)/ring-forming groups & – 9849P
photoinitiators
—diketones & – 5460P
—iodonium salts & – 2160P
photosensitisers – 606P
substituted, photoinitiators, titanocenes & – 2139P
temperature-indicating compsns – 4441P
Coumarone
polymers (hydroxylic), polyurethanes from – 5241P
resins, inks (semi-solid) – 1013P
Coumarone/Indene Resins
adhesives, plasticisers/solvents – 8282P
Coupling Agents
See also silane coupling agents & titanate coupling agents

Coupling Agents *(continued)*
chelates, acetoacetyl etc type organo-silicon – 5656P
glass flakes treated with resins & – 1476P
polymers
—mercaptoacetate groups, epoxies/steel adhesion – 6039
—mercaptoacetate groups, interactions – 5650
—metals/resins coupling – 6416P
primers etc, phenolics/polyvinyl acetal products & – 1155P, 1156P
titanoxanes (cyclic) – 9044P
zirconates, coatings, polyvinyl acetal/phenolics products & – 1870P
zirconium compounds, anticorrosives – 2691
Courtaulds Group
acquisitions by
—of Gila River Products – 7865
—of Products Research & Chemical Corp – 9955
—of remainder Taubmans, bids – 1379
—of US companies – 7904
Coverage
See also spreading rate
Covering Power
See also hiding power & opacity
Cracking
coatings, aircraft – 6804
concrete, extensible coatings – 7622P
concrete (reinforced), corrosion – 9410
fatigue, corrosion, offshore structures – 3467
paintings, sizes/strains/humidity – 7731
photocurables, deliberate – 8775P
resistance
—coatings, siloxanes – 8167P
—pipes from concrete, coatings – 3491P
—polyether-urethanes, curing & – 1626P
—siloxanes & esters/phosphates – 1125P
—siloxanes (ladder) & carboxylates/phosphates – 1655P
—testing, stresses (cyclic) – 2687
weathering, stresses (internal) etc – 1779
Crackle Finishes
basecoats/topcoats – 8526P
Cracks
bridging – 3567
causes/types/sealants/injection etc – 282
coatings absorbing, resins/beads – 5998P
concrete, bridging/linings – 5140
concrete (reinforced), repair, epoxies – 2607
detection, using primers – 1862P
propagation, adhesives (epoxy), cross-linking/Tg – 1190
Cratering
causes, MS (laser microprobe)/microscopy – 3649
detection, lasers scanning systems – 937
electrocoating
—avoidance, by using cationics before – 241P
—mechanisms – 1034
—steel (zinc-coated)/avoidance – 5174P
electrocoating (cathodic), reduction – 1617P
FTIR – 4524
resistance, electrocoating (cathodic) – 6560P
Crayons
fragrance, in microcapsules – 6611P
water-soluble compsns, waxes/colourants/glitter – 9313P
writing (invisible) – 1711P
Creaming
emulsions, particle size, ultrasonics velocity – 2910
Creep
resistance, determination/viscosity/cross-linking/entanglement etc – 8585
Creosote
application, plants/hazards/guidance – 415
cancers, lymphomas – 9789
effluents, regulations (US) – 2972
penetration tests, hardwoods (Indian) – 2717
Cresol-Formaldehyde Resins
conductive coatings, copper & – 3593P
novolacs, resists – 3017P
photoresists – 2172P
Cresols
epoxy/novolacs
— 3250P
—coatings – 4431P
HPLC (reverse phase) – 6892
novolacs
—photoresists – 8771P, 8772P
—resists – 7818P, 7825P
synthesis – 2292
toxicology – 708
Crevice Corrosion
electrochemical measurements – 6706
modelling – 9461
Cristal Pigment Co
titanium dioxide, plants, construction contracts – 4714
Critesa SA
plants, to Repsol Quimica – 9929
Critical Pigment Volume Concentration
See also pigment volume concentration
magnetic coatings, importance – 4541
pigments blends, prediction/validation – 2918
PVC &, importance/formulation – 6133
real, definition/porosimetry/comparison plots values – 2933
Croda International PLC
acquisitions by
—Lusteroid offer/Polystick/UK company – 6308
—of Industrial Paint & Chemicals – 5559
—of Lusteroid, agreed – 5559
Cros SA
mergers, with ERT – 688
Crosfield Chemicals
acquisitions by, of Gottardi – 4716
Cross-linking
acetals/pyrrolidines groups – 2456, 2457
acetoacetate groups, catalysts – 4996
acetoacetates groups, mechanisms/incorporation – 2385
acetoacetates groups/unsatd groups reaction – 2384
adhesives (water-borne), methods/agents, review – 993
bismaleimides/allyl groups products – 2849
catalysts, acetylacetonates – 8228P
chemistry/effects, review – 4013
copolymerisation &, modelling, multistage – 87
cyanoacetate groups/unsatd esters – 5652P
degree of
—adhesives (epoxy), fracture energy – 1190
—determination – 1191
—GC (inverse) – 9706
—polyurethanes, viscoelasticity & – 3627
density of
—epoxies, DSC/ageing/stresses relaxation – 1899
—polyurethanes, adhesion & – 5262
elastomers, review – 8051

Cross-linking *(continued)*
epoxies, NMR (pulsed) – 8630
gamma-rays, gelation/GPC/light scattering – 4566
heat-curables, modelling/side reactions – 204
kinetics, GC (inverse) – 2843
modelling – 3806
networks formation theories – 2333
polyamides, during thermal degradation – 9130
polyesters (unsatd), monitoring, FTIR (photoacoustic) – 6057
polyethylene, gel content determination – 9659
polymerisation with, conformation rearrangement during – 3161
polymers, chemistry/properties/applications, books – 3095
polymers (conjugated), chromium carbonyl groups – 922
polymers (hydroxylic)/melamine resins, chemistry/kinetics – 6050
polystyrene, Friedel-Crafts/aluminium chloride – 832
polyurethanes, curing conditions & – 2440
proteins, from soyabeans – 4003
reversible
—epoxies – 4919
—phosphazenes – 3317
rubber – 4141
silicones – 3311
siloxanes
—by organo-silicons – 3318
—FTIR (photoacoustic) – 4491, 6110
—review – 3313
theory – 4019
water-bornes – 6548
Cross-linking Agents
acetals (polymeric) – 108
amino resins
—catalysts for – 142P
—functional groups distribution – 8128
biuret groups – 8229P
for interpenetrating networks, quantities calculation – 818
for polyurethanes, types – 8199
glycidyl ether oligomers (unsatd) & – 5705
glycoluril derivatives, copolymers (treated) & – 4184P
hexamethoxymethylmelamine, v butylated – 5741
imidazolidones, for formaldehyde condensates – 2422P
isocyanates, emulsions (aq) – 7347P
Mannich bases & urea resins/isocyanates – 8208P
melamine resins, carbamates groups – 8133
phthalates, for halogenated – 5228P
polycarbodiimides – 1633P
polyisocyanates (blocked) – 225P
polyisocyanates/emulsifiers – 8209P
proprietary, synthesis, plants expansion – 3892
silanes, for polymers (hydroxylic) – 2556P
silyl groups, electrocoating (cathodic) – 2554P
titanium compounds, chelates – 6419P
vinyl ethers (difunctional), unsatd/epoxy groups – 8492P
zirconium chelates – 4875P
zirconium compounds
—chelates – 6419P
—emulsion polymers & – 8201
—for carboxylated – 2304
Crown Berger
acquisitions by, of Ripolin factories/Jacoa outlets – 3908
financial performance/plants closure/product launches – 5540
gloss paints, market shares/marketing – 9923
Crown Ethers
initiators, polymerisation (group transfer) – 6428
polymerisation presence
— 9853P
—initiators & – 1594P
sila analogues, complexing agents/transport – 2284
Crystallinity
fluoropolymers blends – 5734
polymers, GC (inverse) – 1945
vinyl chloride copolymers – 9675
Crystallisation
vacuum, ferrous sulphate, sulphate process – 3963
Cumyl Isocyanates
substituted
—epoxy groups – 4105P
—unsatd, copolymers, fast-curing compsns – 2483P
unsaturated
—copolymers (hydroxylic), coatings – 1804P
—copolymers, benzylamines derivatives copolymers & – 2482P
—epoxidation – 4105P
Cumyl Phenol
polycarbonates end-capped by – 1579P
Cupric Oxide
antifoulings, abietates formation – 7582
synthesis, precursors, chelates – 4831P
Cuprinol
market share, UK – 9954
Cupro-nickel
corrosion/fouling – 6727
Cuprous Compounds
conductivity (electrical), copper(I)/diaminoanthraquinone oligomers – 7280
Cuprous Oxide
antifoulants, leaching rates required – 3508
antifoulings
—abietates formation – 7582
—calcium resinates v rosin – 1094
—copper/acrylics/rosin & – 5958P
—discolouration/hydrogen sulphide – 5943
—failure, copper compounds blocking layers – 3514
—plasticisers effects/other factors – 4358
antifoulings (high-build), thixotropic agents etc & – 4361
suspensions (aq), polyvinyl alcohol composites – 9012
thermogravimetry – 7647
Cuprous Sulphide
adhesives (conductive) – 8267P
Curing
See also drying
acrylic/melamines
—faster/conditions – 1732
—FTIR – 6931
alkyds
—monitoring, FTIR (photoacoustic) – 4520
—parameters/coatings performance – 6740
aluminium dihydrogen phosphate – 4310
by vapours
—amines, presence mercaptans/thiourethanes – 898P
—boats painting – 6641
—joint ventures – 6291
—polyurethane coatings – 9392P

Curing *(continued)*
—polyurethanes – 4154
—polyurethanes, two layers individual cure – 9567P
—spraying with the coating – 9339
—Swedish companies – 7887
—technology licensing – 3055
catalysts (supported), on polymers – 9060P
characterisation, methods – 5328
coatings, rust modifiers/conditions – 7492
combination, with ultraviolet curing – 3799
conditions, for identical properties – 2517
degree of, DSC – 7305
during ageing, hardness variation – 4468
elastomers, review – 8051
elastomers blends, properties & – 1530
epoxy/novolacs, viscosity/modelling – 6866
epoxy/polyesters, titanium dioxide grades effects – 4819
fatty acid esters – 7254
FTIR – 6931
furan phenolics, monitoring, dielectric properties, gel time & – 3744
heat-curables, modelling/side reactions – 204
heating, by electromagnetic, modelling – 8256
heating (induction) – 9361
high-solids coatings, rheology during – 2831
interpenetrating networks, kinetics/heat transfer models – 81
mechanisms – 4992
monitoring
—methods – 2517, 5328
—temp trackers during – 6960
—thermomechanical analysis – 1191
of epoxies
— 3231
—acoustic emissions/temp/stresses – 9730
—amines, contaminants effects – 4052
—amines, stoichiometry/kinetics/properties – 2416
—amines/catalysts – 7317
—amines/functionality/stoichiometric imbalance – 4904
—aminimides/fluorescence probes – 8081
—boron trifluoride/isocyanates, faster – 6460P
—cure rate reproducibility additives – 9120P
—curing agents/spiro, less stresses – 6448
—drying time, temp/hydroxylics – 3470
—equations/simulation, etherification side reactions – 851
—ESR during, spin probes – 2892
—formulation optimisation/temp – 7312
—groups reactivities/nucleophilicities – 2390
—hexahydrophthalic anhydride – 5717
—imidazoles/etherification reactions – 4045
—kinetics/branching theory – 2410
—kinetics/components ratio – 6456
—kinetics/HPLC/accelerators/mechanisms – 6946
—mechanisms/DSC – 4543
—mechanisms/properties/model systems – 841
—microwaves – 5450
—modelling/intermediates, MS – 6081
—monitoring – 6977
—monitoring, methods comparison – 5311
—monitoring/Tg – 7007
—monitoring/ultrasonics – 6118
—presence orthocarbonates, shrinkage reduction – 4925P
—reactions/nucleophilicity/model reactions – 4210
—reversible – 4919
—rheology during, equations/modelling – 5266
—room temp systems – 4154
—surface tension/viscosity during – 535
—Tg during – 4045
—thermal analysis, melamine & – 2908
—torsional braid analysis – 8590
—viscoelasticity during – 6036
—viscosity during/percolation model – 4918
—viscosity/dielectric properties/Tg correlation – 6977
of epoxies (modified), episulphide groups – 917
polyamic acids
—blends – 5737
—kinetics etc/FTIR – 5749
—monitoring, fluorescence/spectroscopy – 1199
—monitoring/infrared spectroscopy – 5298
polyesters, chemistry – 7313
polyesters (unsatd)
— 5698
—ambient, initiators/degree of cure – 6449
—kinetics/models/DSC – 2928
—monitoring/morphology etc – 1568
—monitoring/pressure/temp – 7320
—styrene (residual) – 1563
polyimides, volatiles identification – 9251
polyphenylene sulphides – 3310
polyurethane coatings
—conditions, effect on groups/links/properties – 2440
—processes/modelling/experiments – 166
polyurethanes
—humidity effects – 2441
—review – 3283
—room temp systems – 4154
—viscoelasticity during – 3627
powder coatings
—epoxies, emissions/monitoring – 2105
—temp reduction – 3358
silicones – 4118
steam/water (hot), temporary intervening layers – 6662P
styrene/butadiene copolymers, mixing & – 8071
thermal
—combination with radiation – 4983P, 5406
—combination with ultraviolet – 3850P, 5440, 5478P, 8753
time of, ambient, properties development – 9758
time/temperature/transformation diagrams – 2827
transitions, time/temperature/transformation diagrams – 6863
ultrasonics measurements during – 5270
urethanes, amines/catalysts – 1625P
vinyl ester polymers, kinetics/properties – 5714
water-bornes, faster – 1658
zinc/ethyl silicate paints, monitoring – 6735
Curing Accelerators
esters (unsatd, neutralised) – 7395P
for driers, chelating agents – 2298
for epoxies
—acetals (cyclic)/ammonium – 855P
—amine thiocyanates – 1574P
—amines/dihydroxybenzoic products – 8116P
—boron trifluoride/amines complexes – 1577P
—DSC – 7002
—fluoborates/fluorophosphates – 1573P
—heterocyclics thiocyanates – 122P
—imidazoles (thioformyl) – 2436P
—imidazoles, adhesives – 6595P
—kinetics/mechanisms, perchlorates/amines – 6946
—magnesium perchlorate – 7002

Curing Accelerators *(continued)*
—piperazine – 1001P
—piperazine/triethanolamine/triamines – 4946P
—salicylic allyl ethers – 1595P
—types – 114
for melamine resins, NADs – 9211P
for phenolics – 868P
for silanes etc, oxides/hydroxides – 197P
latent
—for cyanates, ureas – 6504P
—for epoxies, epoxy/amine adducts – 9121P
piperazine – 6757P
Curing Agents
acetals, for films (polymer) – 812P
adhesives (water-borne) – 993
analysis – 516
epoxies, for polymers (carboxylated) – 1683P
for bismaleimides – 892
for cyanates, acetylacetonates/phenols – 6511P
for epoxies
— 3231, 5533
—aldehyde resins, deformation & – 3600P
—allergies/asthma – 7033
—allylaminocaprolactams – 51P
—amine-amides – 4088P
—amine-imides/thermal stability – 849
—amines (hindered), accelerators & – 1577P
—amines/toxicity – 2099
—aminimides – 106
—bisphenol A/bisphenol A monoglycidyl ether – 2581P
—carbonates (cyclic)/amines products – 9086
—diamines, (thio)ether/ketone/sulphone groups – 3245P
—dicyandiamides/triazines/epoxy compounds – 2430P
—diisocyanates/uretonimines/alcohols etc products – 5018P
—epoxy phosphates – 4066P
—epoxy siloxanes adducts – 3270P
—epoxy/amine adducts – 879P, 4065P
—epoxy/phenolics, stability (storage) – 4942P
—fluorenes/amino groups – 999P
—fluorocarbons (functional) – 4948P
—fluoropolymers substrates &, interactions – 7419
—heterocyclics (tricyclic) – 131P
—hexahydrotriazines synthesis – 1497P
—hydrazides & epoxies products – 9281P
—hydroxystyrene polymers – 1581P
—imidazole trimellitates – 1825P
—imidazoles – 1586P
—imidazoles/dicyandiamide/prereacted products – 1687P
—ketimines (modified) – 7318
—low temp/DSC screening – 7305
—mercaptans on oxides – 7590P
—mercaptans/properties/uses etc – 842
—microcapsules containing agents – 7310
—naphthylmethylsulphonium – 881P
—novolacs (fluorinated) – 3321P
—particles – 431P
—phenolic systems – 877P
—phenols (halogenated)/phenols – 8103P
—phthalic anhydride (substituted) – 8028P
—polyamine-amides/acrylate amine products – 6836P
—polyamines (modified) – 4440P
—polyamines/blocked isocyanates products – 4933P
—polyamines/epoxies/acrylates & – 9122P
—polyamines/polyphenols salts in adducts – 1694P
—polyether-amines/carboxylics etc products – 7332P
—polyether-urethanes/amines & flexibility – 6443
—polyetheramine-amides – 7353P
—powders (coated), by aluminium compounds – 3271P
—powders, stability (storage) – 3271P
—review – 113
—silanes, Si-C (non-hydrolysable) – 7409
—silicon compounds/basic nitrogen – 3500P
—solventless coatings – 2564
—succinic anhydride (alkenyl) – 4863P
—toxicity – 550
—types – 114, 9085
for novolacs
—curing behaviour – 4912
—products properties – 5263
for polyurethane coatings, polyether-amines – 911P
health & safety data sheets – 4800
iron complexes, of arenes/cyclopentadienyl/indenyl – 4890P
isocyanates, from urethanes from olefins – 167P
isocyanurates, from hexamethylene diisocyanate – 9135P
latent
—for epoxies, cyanoguanidines – 9096P
—for epoxies, flexibilisers & – 8077
—for epoxies, guanidine oligomers/cyano groups – 8101P
—for epoxies, isocyanates (blocked) – 4073P
—for epoxies, isocyanates/amines/phenols – 3248P
—for epoxies, phthalamides powders – 207
—polyurethanes (moisture-curable) – 8134
onium salts/organo-metallics – 9876P, 9877P
polyamines/active CH esters products – 4077P
polyimides (unsatd) as – 9061P
polyisoimides (unsatd) as – 9061P
substrates containing, migration – 448P
urea resins (methylated/rosin-modified) – 7341
Curtain Coating
edge guides/vacuum extraction by – 9376P
lines, emissions mapping, workplaces – 5392
Curtaining
See sagging
Cutting Fluids
cancers etc, epidemiology – 1277
Cyanates
difunctional, blends, monomeric/prepolymers, non-crystalline – 9146P
groups
—maleimides, cyanates (polyfunctional) & – 901P
—maleimides, heat-curables – 4964P
—maleimides, heat-curables, other components & – 8141P
—polysulphones/polyketones, maleimides & – 6521P
heat-curables
—curing accelerators (latent) & – 6504P
—maleimides/allyl ethers & – 1715P
interpenetrating networks, modelling (molecular) – 8044
of ethers/polyethers, unsatd compounds & – 2466P
polyfunctional
—catalysts & – 3302P
—curing agents for – 6511P

Cyanates *(continued)*
—maleimides/cyanates groups & – 901P
—prepolymers, thermosetting compsns – 4112P
—products with epoxy siloxanes – 4128P
—thermosetting compsns, aromatics & – 4112P
—tricyclodecanes links, vinylbenzyl ethers & – 1623P
reaction, with benzocyclobutene groups – 2463
Cyanides
See also nitriles
emissions, fires, railways (underground) – 5354
free, determination, via gold complexes, AAS – 6895
Cyano Groups
enamines, polymers with units of – 5745
epoxies (linear), diphenylalkyl cyanide units – 9102P
styrene, synthesis/polymerisation – 4101
Cyanoacetates
groups, polymers, cross-linking, catalysts – 5652P
Cyanoacrylate Adhesives
adhesion (initial), polyols blends – 9285P
allyl groups, synthesis/properties/use with ethyl – 265
computers disc drives repair – 7417
developments/monomers types – 8257
diluents (reactive), polyether acrylates – 997P
for plastics, adhesion promoters – 5128P
inhibitors (polymerisation) – 5052P
modified, by polymers, mechanical properties – 2837
primers for, phosphines – 1126P
review – 7420
thixotropy, for substrates (porous) – 5054P
Cyanoacrylates
copolymerisation, softening point/adhesion/reactivity ratios – 9131
determination, in air, sampling/GC – 6912
polymerisation
—MWD (narrow)/initiators/resists – 9165P
—water effects – 9127
polymers
—hydrolysis – 8154
—monomers from – 6912
—resists, electron beams/X-rays – 7826P
primers before, aldehydes/amines – 447P
review – 7420
siloxanes/microspheres & – 5232P
Cyanurates
unsaturated, propenylphenyl groups – 4971P
Cyclic Compounds
unsaturated, copolymers (hydroxylic), for urethanes etc – 144P
Cycloacetals
See acetals (cyclic)
Cycloalkenes
polymerisation (metathesis), review – 3202
Cyclobutane
derivatives, polyamides from, photochemistry – 2129
groups
—main chain, polyamides – 3286
—polymers, dienes four-centre addition – 3802
Cyclodextrins
inclusion compounds
—initiators in, sealers – 6616P
—photosensitisers – 3796
—stoving odours masking – 4193P
perfumes &, photocurables/fragrance – 9873P
Cycloheptene
trans-, synthesis/trans cis conversion etc – 7988
Cyclohexane
derivatives
—acrylates – 866P
—aminomethylcyclohexanemethanol, polyesteramide-imides – 902P
—scratch-resistant coatings – 9600P
diisocyanates of
—derivatives (blocked), powder coatings – 4203P
—isocyanurates – 7109P
substituted
—diisocyanates (blocked) of, coatings – 4170P
—diisocyanates of, coatings – 6845P
—from isophorone, synthesis/use – 2294P
Cyclohexanedicarboxylic Acids
half-esters, acrylates, adhesives (ultraviolet-curable) – 3822P
Cyclohexanedicarboxylic Anhydride
See also hexahydrophthalic anhydride
substituted, health hazards/monitoring (biological) – 2108
Cyclohexanedimethanol
polyesters
—coatings for automobiles – 4434P
—coatings over electrocoating – 9599P
vinyl ethers, ultraviolet-curables – 5409
Cyclohexanone
condensates, treatment with, nacreous pigments – 3121P
polymers
—allergies – 2059
—chemistry/stability/flexibility/modification – 4910
Cyclohexanone-Formaldehyde Resins
grafting, with styrene – 6431
Cyclohexene
cyclohexenylcyclohexanones, coalescing agents – 5783
groups, on bisphenol A glycidyl ethers – 2423P
photopolymerisation, maleic anhydride/complexes/alternating – 9836
substituted, acrylates, synthesis – 4860P
Cyclohexene Oxide
epoxy-substituted
—dermatitis (contact) – 555
—immune system, antibodies/allergies – 2952
polymerisation
— 8117P
—catalysts, titanates/phenols – 840
vinyl-substituted, epoxies from – 3252P
Cyclohexenedicarboxylic Acids
See also tetrahydrophthalic entries
maleinised, products hydroxyalkyl acrylates – 4648P
Cyclohexenedicarboxylic Anhydrides
See also tetrahydrophthalic entries
Cyclohexenones
amino groups, stabilisers (ultraviolet) – 793
Cyclohexyl Acrylate
copolymers, transparent coatings – 1165P
copolymers (carboxylated), repair painting – 1875P
Cyclohexyl Isocyanate
cyclotrimerisation, catalysts/kinetics – 5748
Cyclohexyl Methacrylate
copolymers, blends styrene polymers – 8498P
copolymers (carboxylated), repair painting – 1875P

Cyclohexyl Methacrylate *(continued)*
grafting, on polybutadiene, kinetics/characterisation – 5709
photopolymerisation, diacrylates & – 7078
polymers, silica/calcium oxide/fly ashes etc – 1716P
substituted, polymers (hydroxylic) – 144P
Cyclooctatetraene
polymerisation (metathesis), & copolymerisation – 2376
Cyclooctynes
polymerisation (ring-opening), catalysts/products hydrogenation – 9069
Cyclopentadiene
derivatives, esters – 6469P
groups, pendent, phosphazenes, cross-linking (reversible) – 3317
Cyclopentadiene Copolymers
adhesives, ethylene copolymers & – 9266P
adhesives/tackifiers – 9265P
hydrogenated, adhesion agents – 835P
modified, by carboxylics/phenolics – 9303P
synthesis/hydrogenation, cyclopentadiene-type monomers – 3158P
Cyclopentadiene Polymers
synthesis – 4903P
Cyclopentanes
groups, main chain, polymers (unsatd) – 8800P
Cyclopentenyl Groups
phenols, polymers, tackifiers – 6593P
Cyclopentenylsuccinic Acid
polyimides (fluorinated) – 5760P
Cyclopentyl Acrylate
polymers, coatings, polyolefins (chlorinated) & – 1842P
Cyclophanes
polymerisation, properties/conductivity (electrical) – 2397
Cyclopolymerisation
review – 3162
Cyclopropane
substituted, vinyl groups, polymerisation/thiophenols reaction – 8119
Cyclotrimerisation
polymerisation by – 3174
Cylinders
gas, painting/marking, plants – 3431
Cypermethrin
wood preservatives, termites/marine borers – 2730
Cyprus Minerals Co
acquisitions by, of Vermont Talc – 4683

D

Dai-Nichiseika Colour & Chemicals Co
acquisitions by, part of Intermedics Organicos – 5550
Dai-Nippon Ink & Chemicals Inc
acquisitions by, of Prisma – 7842
financial performance/acquisitions – 8840
financial performance/activities – 7174
joint ventures
—Cepsa & – 9944
—epoxies (liquid), plants – 1370
—epoxies plants – 676
—with Cepsa – 5547
plants, Japan, alkyds/powder coatings resins – 5536
Dai-Nippon Toryo Co
financial performance/activities – 7175
Daicel Chemical Industries
joint ventures, with UCB SA – 693
Daicel-UCB Co Ltd
resins marketing, radiation-curables – 693
Dairies
water-bornes, epoxies – 6545
Damp
buildings (domestic), inspection – 3501
Dams
concrete (reinforced), cracks repair, epoxies – 2607
waterproofing, asphalts – 2766
Dangerous Substances (Conveyance by Road in Road Tankers & Tank Containers) Regulations 1981
approved lists – 7205
codes of practice, revisions (proposed) – 5584
gases (compressed), codes of practice – 3929
Data Banks
ships' tanks coatings selection – 6690
Data Sheets
fire resistance products, for steel – 4789
health & safety
—aniline – 4588
—chemicals (various) – 5601
—diacetone alcohol – 4590
—dioxane – 4589, 8710
—formals – 7018
—heptane – 2083
—hexachlorocyclohexane – 2085
—isooctane – 7017
—isophorone – 4591
—paint industry/sixteen hundred – 4800
—proprietary products – 3096
—solvents – 2245, 4808
—solvents, various, book chapters – 7221
material safety
—computers – 7429
—information in/advice to painters – 2958
—product data sheets & – 6167
—toxic materials notification – 720
product, information on, & application instructions – 206
Databases
analytical chemists & – 3075
business, sourcebooks – 732
computers, products on, manufacturers/wholesalers/painters – 4699
corrosion resistance, steel (coated)/weathering (natural) – 367
expert systems integrated with – 707
health & safety – 3075
materials, requirements/options/improvements – 5573
micro-organisms – 5941
patents (European), statistics analysis/companies studies – 3921
pyrolysis/GC, polymers, proposals – 8612
software (proprietary), computers – 7217
spectrometry, survey/construction/spectra evaluation – 6083
WSCA, on-line searching guidance – 9965
Daylight Fluorescent Pigments
See fluorescent pigments (daylight)
De Beer Lakfabrieken NV
acquisition, by MaxFin – 9938
Deaeration
additives, polydienes (modified), siloxanes groups – 4877P

Deaeration *(continued)*
paper coatings – 2617
Dealwork Ltd
acquisitions by, of Kirklees Chemicals – 669
Decalcomanias
See also transfer materials
adhesives layers forming topcoats after – 1019P
Decontamination
coatings
—nuclear installations – 361, 4774
—radioactive materials, resistance – 8503
—radioactive materials, tolerance – 8502
dioxins (chlorinated) – 6176
nuclear installations, blasting – 1729
strippable coatings – 1147P
Decorating
directories (UK)
— 4806
—products/services – 10006
handbooks, information manual – 7931
pretreatment, washing (jet) – 5857
Decorative Coatings
See also architectural coatings
for aluminium (foamed), first cut patterns – 5227P
India, types/future etc – 1648
manufacture
—plants (Israeli)/automation – 7458
—plants (Japanese), processes – 7446
—plants/automation – 5080
manufacturers, acquisition by Portuguese – 6313
manufacturers (Canadian)
—joint ventures buy out – 692
—joint ventures buy-out – 3060
manufacturers (Italian) – 5537
manufacturers (Italian) acquisition – 6303
manufacturers (Mexican), acquisition by Dutch – 3056
manufacturers (Swiss) – 6321
manufacturers (UK)
— 7170
—acquisition – 703
—acquisition, by French, bids – 2215
manufacturers (US) – 8842
market (UK), manufacturers/retailers/marketing – 5531
market (UK/Europe)/retailing – 8833
NADs, acrylics – 3338
paint industry (Russian), requirements – 7371
paint industry (Thai) – 7138
painters buying co-operatives – 691
pens etc, silica etc – 1167P
pigments, grooved surfaces/interference effects – 1158P
polyesters/silyl groups/zirconates – 9598P
proprietary, self-undercoating – 8180
titanium dioxide – 756
types/properties/uses/application – 7931
volatiles (org), limits/USA – 8849
water-borne, paint manufacturers (US), plants – 9334
weathering – 1783
Decorative Effects
basecoat/clear, topcoats breaking up – 5858
coated sheets application, adhesives/vacuum/heat – 8358P
coatings (two-tone) – 465P, 1740P
colour changes, by humidity/temp/light etc – 9637P
crayons, glitter – 9313P
durability, polyesters (unsatd)/silamethylene silanes/ground brick – 8524P
glitter – 9314P
granite, undercoats/intermediate – 8368P
history/Dutch research/proprietary/application – 5211
metallic effect, bronzing, materials/technique – 5099
photocurables, wrinkling/cracking – 8775P
pigments
—grooved surfaces/interference effects – 1158P
—particles – 10-500 micrometres 8186P
polyurethane coatings, velvet appearance – 6027P
powder coatings, methods – 7405
ripple effect, two-tone – 5858
sandstone simulation – 4258
transfer materials, electron beam-curables (cured) – 3819P
Decorative Patterns
See also embossed patterns
development, by magnets – 1865P
ultraviolet-curables then printing/stamping – 3027P
wrinkle finishes over – 2796P
Decorative Sheets
coatings, phosphazenes (unsatd) – 4432P
Defects
See also paint defects
coatings, aircraft, adhesion/cracking failure – 6804
concrete, surfaces – 7465
detection/assessment, lasers scanning systems – 937
discontinuities, linings on concrete, detection – 8927
elastomers, testing (non-destructive) – 1246
electrocoating
—causes/control – 1659
—films rupture – 1034
electrocoating (cathodic), films rupture – 1034
emulsion paints (exterior), descriptions – 8897
facades
—after renovation – 6643
—salts, causes etc – 9473
masonry (coated), avoidance – 9412
paintings, sizes/strains/humidity – 7731
pipeline coatings
—monitoring, AC/alternating magnetic fields – 8391
—monitoring, DC pulse/voltmeters – 6712
—surveys (in situ) – 2659
pipeline coatings (underground), detection – 4321
polyurethane coatings, substrates pores, avoidance – 9567P
powder coatings, for steel (zinc-coated) – 6725
radiation-curables, & avoidance – 8761
steel (coated), impedance at – 351
Defoamers
See anti-foaming agents
Deformation
photodegradation & – 4314
resistance to
—coatings (partially-cured) – 1170P
—coatings, siloxanes (ladder) – 946P
tolerance to
—coatings/inks – 3572
—epoxies/curing agents – 3600P
—phosphate coatings – 9373P

Degradation
See also thermal degradation, thermo-oxidative degradation & photodegradation
asbestos cement, bacteria/condensation/freezing – 1811
cellulose triacetate – 348
coatings, in use, characterisation/life prediction – 9457
concrete
—attack types/damage evaluation/data significance – 2679
—sulphide environments – 389
concrete (reinforced), quays etc, inspection/repair & – 3484
mechanochemical, review – 4471
organo-tins, in coatings – 2714
pipes, plastics – 5930
polyethers, metals contact, prevention – 873P
polymers, infrared spectroscopy, review – 3668
Degreasing
aluminium
—aq compsns, phosphates-free – 2644P
—before conversion, acid/alkali – 5105
aqueous
— 5870
—v solvents – 3441
baths, water barriers on baths surfaces – 5124P
combination
—with phosphating – 3436, 5084, 5121
—with phosphating, equipment/automation – 1736
control, computers – 5884
costs, solvents v detergents – 3441
dichlorodifluoroethanes/trifluoroethanols – 9375P
difluorotetrachloroethane/petroleum fractions – 1496P
emissions
—infrared spectroscopy – 9696
—reduction, cold air blankets – 5884
—solvents recovery, permeation membranes – 3782
—solvents/factors – 585
hazards, assessment, painting & – 3083
hazards/precautions – 5355
metals – 6649
solvents
—plants, regulations (German) – 4756
—v detergents – 3441
solvents (chlorinated), statistics/pollution etc – 4625
surfactants, polyethers (sulphonated) – 6666P
surfactants/glycerol/water – 7514P
temperature (low), processes/examples etc – 5084
tetrachloroethylene, levels in air in plants – 6198
trichloroethane
— 7489
—conversion to from alkaline – 9355
trichlorotrifluoroethane – 5639
vapour, below boiling point, condensation, closed chambers – 1748P
Deinking
See paper, inks & printing inks
Delta Carbonate Inc
calcium carbonate – 8844
Deltamethrin
wood preservatives, termites/marine borers – 2730
Densitometers
comparison, with reflectometers/colorimeters – 6033
Densitometry
comparison
—with colorimetry – 6853
—with densitometry – 5258
Density
anticorrosive pigments, same as resins – 2705P
determination
—of fluidised beds – 6639
—viscous materials – 6975
Deoxybenzoins
photoinitiators, amines presence/absence – 2991
Deoxyribonucleic Acid
hydroxylation, mineral fibres (synthetic) – 9781
Dermatitis
acrylates (polyfunctional) – 5370
butylphenol-formaldehyde resins – 559
contact
—cyclohexene oxide (epoxy-substituted) – 555
—dithiocarbamates – 5383
—dyes (various) – 552
—epichlorohydrin/epoxies, sensitisation – 4606
—epoxies, fibreglass manufacture – 4586
—isothiazolinones mixtures (proprietary) – 2945
—sensitisation, rosin & derivatives – 8714
—triglycidyl isocyanurates – 9785
Design
See also planning and factorial design
automobiles, corrosion control – 8389
handling (pneumatic) – 3424
paint defects & – 9193
pipelines, systems, guidelines – 5854
plants
—materials selection/testing – 5926
—painting – 7499
—process control, feedforward/feedback – 3419
—scheduling & – 7451
plants (multipurpose), mathematical programming (non-linear) – 9330
plants (pilot), paint manufacture – 7463
reactors, phthalic anhydride synthesis – 9774
reactors systems – 1720
window-frames (wooden) – 8501
Designs
registered, regulations (UK) – 9978
Desorption
from polymers – 3724
solvent blends components, from carbon – 4499
volatiles, from carbon, sealed vials – 5276
Deuterium
polymers containing, resists/sensitivity – 7819P
Dexco Polymers
joint ventures – 3910
Dextran
blends, polyethers &, aq, phase behaviour – 2018
Dextrin
pressure-sensitive adhesives, acrylics & – 6592P
Di(ethylhexyl) Adipate
toxicity – 4809
Di(ethylhexyl) Phthalate
carcinogenicity/mutagenicity – 2075
toxicity
— 4809, 7032
—testes – 573
—thyroids – 570
Diacetone Acrylamide
copolymers, photoresists – 8782P
printing inks (screen, water-borne) – 4227P
Diacetone Alcohol
determination, in air – 4590

Diacetone Alcohol *(continued)*
toxicity/hazards/regulations (French) etc – 4590
Diacrylates
diluents (reactive), irritation/hexanediols replacement – 5421
Diallyl Isophthalate
gel point, isomers same/mechanisms – 5711
Diallyl Phthalate
gel point, isomers same/mechanisms – 5711
polymers, structure/cyclisation/NMR – 6062
Diallyl Terephthalate
copolymerisation, kinetics/gel point/composition etc – 8085
copolymers
—adhesives, vinyl chloride copolymers & – 9263P
—with alkylbenzenes, powder coatings – 9249P
gel point, isomers same/mechanisms – 5711
Diamines
chlorinated, curing agents for polyurethanes – 6508P
curing agents, (thio)ether/ketone/sulphone groups – 3245P
from siloxanes (Si-H)/allyloxyanilines – 4138P
polyethers/amino end groups, synthesis – 9153P
products
—with carbonates, polyurethanes – 8127
—with isocyanates (blocked) – 4933P
Diaminocyclohexanes
polyamides – 7355P
Diaminodiphenyl
See also benzidine entries for para isomer
Diaminodiphenyl Disulphides
curing agents, for epoxies, reversible cleavage – 4919
Diaminodiphenyl Ethers
toxcity, DNA repair tests – 2099
Diaminodiphenylmethanes
curing agents, for urethanes, catalysts – 1625P
derivatives, glycidyl, tetrahydroquinoline rings formation – 4909
determination, in air, sampling/analysis – 1946
exposure limits, proposals (US) – 7919
substituted
—polyamide-imides – 5755P
—polyureas – 3306P, 3307P
toxicity, DNA repair tests – 2099
Diaminohexanes
See also hexamethylene entries
Diamonds
adhesives, semiconductors manufacture – 9264P
surfaces, treatment organo-silicons – 7743
Dianhydrides
products, with stabilisers – 9045P
Diatomite
emulsion paints – 8224P
Diatoms
fouling – 3529
Diazabicyclononenes
products, with isocyanates, powder coatings – 982P
Diazabicyclooctane
catalysts, urethanes formation – 6498
groups
—main chain, polymers, from azine/hydroxy diene esters – 6500
—polymers from dienes/azines – 1612
products, with acrylics (modified) – 7285P
Diazabicycloundecenes
polyurethanes (two-component) – 2484P
products, with isocyanates, powder coatings – 982P
Diazo Compounds
photoresists, acridines & – 7105P
resins, photoresists, binders/pivalates groups & – 5467P
Diazonium Salts
aniline-formaldehyde condensates, photosensitivity – 5468P
initiators, mechanisms – 8052
Dibenzofurans
chlorinated, sources/pollution/exposure/toxicity etc – 8728
Dibenzyl Ether
wastes containing, diphenylmethane from – 7262P
Dibenzylamine
hydroxylated
—chelating agents, for metal substrates – 1074P
—corrosion inhibitors – 9487P
substituted, chelating agents, corrosion inhibitors – 4335P
Dibenzylideneketones
epoxy groups, photo-crosslinking – 5281
groups
—photo-crosslinking efficiency, models – 5408
—photo-crosslinking, kinetics – 5282
Dibutyl Phthalate
powders, pigments & in – 1667P
Dicarboxylic Acids
coatings, for glass, polymers & – 5250P
conformations, in aq alkali, helices – 1203
epoxy compsns, ureas & – 1570P
imides groups, products glycidyl halides – 6473P
salts, polymeric structure – 5665
unsaturated, photoresists – 9864P
Dichlorodifluoroethanes
degreasing, trifluoroethanols & – 9375P
solvent blends
— 6405P
—methylpentanes & – 6404P
—trichlorotrifluoroethane/alcohols & – 9014P
Dichloroethylene
See also vinylidene chloride
effluents, limits/EEC directives – 1384
trichlorotrifluoroethane/stabilisers & – 5641P
Dichroism
anthraquinone dyes – 7963
flow & – 6854
Dichromates
photosensitives – 9875P
water-bornes, phosphates/aluminium (dissolved)/polyethers etc – 4329P
Dictionaries
science & technology – 746
Dicyandiamide
adhesives, segregation (partial) to interfaces – 7414
condensates, with formaldehyde – 3355P
products, with triazines/epoxy compounds – 2430P
Dicyclohexyl Ether
coalescing agents – 5783
Dicyclohexylalkanes
alkoxylated, acrylates (polyfunctional) – 9896P
Dicyclohexylamine
corrosion inhibitors (volatile) – 9436

Dicyclohexylamine *(continued)*
products, with acids, corrosion inhibitors (volatile) – 6755P
salts, corrosion inhibitors – 400P
Dicyclohexylmethane Diisocyanates
blocked, polyurethane coatings (one-pack) – 4171P
Dicyclohexylpropanes
fluorinated, derivatives, synthesis/polymers – 1494P
Dicyclopentadiene
derivatives, polyesters/coatings – 6469P
hydrogenated, oligoesters (unsatd) – 3251P
modified, alkyds, synthesis/coatings – 6444
polyesters (unsatd), heat-curables – 5724P
polyesters (unsatd) modified by – 154P
polymerisation (metathesis), catalysts/rate modifiers – 4902P
polymers
—carriers/coatings for photoresists – 3590P, 3590P
—from mixture with tri- etc – 98P
polymers (ring-opened), maleinisation – 4020P, 4079P
treatment, partial formation tri- etc, liquid products – 98P
Dicyclopentadiene Copolymers
adhesives, ethylene copolymers & – 9266P
adhesives/tackifiers – 9265P
initiators/photoinitiators & – 5688P
modified, by carboxylics/phenolics – 9303P
Dicyclopentenyl Groups
methacrylates, synthesis – 4076P
Dielectric Constant
See also electrical permittivity
epoxies, low – 4935P
polyimides, reduction/structure – 5335
polyimides (fluorinated)
— 5335
—reduction by diamic – 5336
reduction
—polyimides (fluorinated) – 6132
—polyimides/particulate fluoropolymers – 6132
Dielectric Properties
acrylamide (epoxy groups)/monomers/curing agents – 3586P
dihydrobenzocyclobutene polymers – 5681
emulsion paints, bulk/films/film formation – 8668
epoxies
— 7001
—curing monitoring/correlation other – 6977
—during curing, viscosity & – 6988
epoxies (cured, partially) – 1239
furan phenolics, curing, monitoring/gel time – 3744
glass beads, RH effects/packing changes (RH-induced) – 6979
interactions estimation, refractive index & – 1261
latices, surface groups/volume fractions & – 5319
monitoring, microsensors, curing/diffusion etc studies – 2014
polymers book chapters, review – 2045
printing inks (lithographic), dampening solutions & – 6968
temperature &, coatings – 3716
theory/equations – 2045
ultraviolet-curables, acrylic/urethanes, siloxanes segments – 2124
use of range of frequencies, emulsions stability – 6999
Diels-Alder Adducts
azomethine compounds/dienes – 2282
maleic anhydride (substituted), sulphones groups – 7996
tetrahydroanthracenes (ether-bridged)/anthracene groups – 3289
Dienes
block copolymers, adhesives (hot-melt) – 985
copolymerisation
— 3213
—with acetoxystyrenes – 1582P
copolymers, adhesives (hot-melt), methylpentenes polymers & – 9270P
Diels-Alder adducts, azomethine compounds & – 2282
photopolymerisation, four-centre addition – 3802
polymerisation
—by adducting with dienes – 1612
—catalysts – 3214
polymerisation (anionic)
— 3189
—configuration – 2328
polymerisation (cationic), review – 2378
polymers
—blends, paper coatings – 2758P
—epoxidation, methods/structure/properties/uses etc, review – 3205
—epoxies modified by – 5247P
—photocurables, printing plates – 3020P
—products with epoxies – 6020P
polymers (hydrogenated), synthesis presence Friedel-Crafts – 9269P
polymers (hydroxylic), polyurethanes – 8145P
products
—with chloroform – 8119
—with isocyanates – 167P
—with phenols, bisphenols from – 5729P
reaction, with oxygen (singlet) – 2287
Dienes, Conjugated
block copolymers, optionally hydrogenated, bituminous compsns – 1644P
copolymers
—latices (core/shell), paper coatings – 8493P
—latices, synthesis presence block – 4405P
—paper coatings – 4404P
—polymerisation presence – 6800P
copolymers (carboxylated)
—ammonium monomers &, paper coatings – 5981P
—latices – 7594P
—latices synthesis (two-stage) – 8495P
—paper coatings – 1838P, 3559P, 5208P, 5980P, 5982P, 9556P
—photosensitives – 1310P
—synthesis/paper coatings – 3561P
emulsion polymers, acrylamide/carboxylated etc & – 7344P
isomerisation, catalysts/antioxidants effects – 9008
polymerisation, catalysts/polymers/stereochemistry etc, review – 3212
polymers, acrylic/urethanes from – 3009P
Diethanolamine
derivatives, solubilisers for surfactants – 808P
polyester-amides – 1613
substituted, polyether-urethanes, ionomers – 2446
Diethyl Fumarate
photopolymerisation, styrene &, reactivity ratios – 7068

Diethylene Glycol Dimethacrylate
synthesis/characterisation – 7998
Diethylene Glycol Monobutyl Ether
teratogenicity – 9771
Diethylene Glycol Monohexyl Ether
toxicity/irritancy – 2052
Diethylenetriamine
blocking of amino groups – 44
curing agents, for epoxies – 4904
determination, in air – 7674
products, with phthalic, curing agents (latent) – 207
Differential Scanning Calorimetry
combination, with light/infrared transmission – 1202
comparison, with FTIR, resins systems – 1234
epoxies
—curing accelerators – 7002
—curing agents screening – 7305
epoxies (cured) – 1899
fluoropolymers/polyvinyl acetate – 2006
methylstyrene copolymers – 8062
photochemistry, irradiation via fibres – 6157
photocuring, monitoring – 2992
photopolymerisation
— 4543
—parameters – 5331
polyacrylic acid/water, & salts – 9685
polyesters (unsatd) – 2928
polymerisation – 4543
polypropylene glycols – 539
polystyrene, heating/rates/annealing – 7727
polytetrafluoroethylene – 2021
styrene/butadiene, copolymers/homopolymers – 8062
ultraviolet-curables, stability (storage) – 5333
vinylidene chloride copolymers – 1257
Differential Thermal Analysis
volatile materials/air sensitives, samples in capsules – 2016
Diffusion
See also migration
barrier coatings, carbon (activated) layers – 2700P
books – 3952
chlorides, in interpenetrating networks – 8682
chlorides etc, in concrete – 5157
coefficients
—in polymers, by FTIR – 3760
—in supercritical fluids – 4545
—into films, determination/acoustic waves (surface) – 1244
—toluene/polystyrene, concentration/MW – 5340
corrosion products, across coatings – 9462
cyclohexanone, in polyvinyl chloride (treated) – 6655
determination, microscopy in ultraviolet – 9732
esters, in polymers (chlorinated) – 8700
factors etc – 2028
in particles (core/shell), absorption etc & – 3724
in polyimides – 6162
in polymers, stresses driving, modelling – 6126
inter-, polyimides layers, solvents/adhesion – 8599
ions, coatings – 6696
measurement, dielectric properties, microsensors – 2014
oxygen, in polymers, determination by radicals scavenging – 7730
particles
— 3748
—photon correlation spectroscopy – 3747
penetrants
—in polymers, theories, strains etc – 4555
—in polymers, theory/experiments/stresses – 4554
—in polymers, viscoelasticity/trains, simulation – 4565
polymers
— 1265
—solutions, broadening, MW by – 3670
rate, determination, coatings, by ultrasonics – 9744
resistance to, pigments causing, simulation – 2521
self-, solvents, theory/prediction/experimental – 7747
solutions, book chapters – 1923
solvents, coatings drying, modelling – 3758
thermal, coefficients, determination, polymers/solvents – 8693
water
—coatings – 6696, 6965
—epoxies – 3711
—epoxies/Fick's laws – 2935
—in coatings, calculations – 1237
—nitrile rubber/maleimides – 1264
water vapour, polyurethanes etc – 1851
Difluorotetrachloroethane
blends, with petroleum fractions – 1496P
Diglycidyl Phthalates
powder coatings, polyesters & – 4204P
Diglycidylanilines
reaction, with amines (aromatic) – 9081, 9082
Dihydrobenzocyclobutene
groups, polymers/dielectric properties – 5681
Dihydrodicyclopentadienes
acrylates, copolymers, radiation-curables – 623P
derivatives
—plasticisers for adhesives – 8282P
—sulphosuccinates, surfactants (reactive) – 811P
Dihydrophenanthrenes
epoxies, from epichlorohydrin & – 2433P
Dihydrophenophosphazines
azo dyes, dyes/intermediates non-mutagenicity – 757
Dihydropyrans
esters, rings in both components, photopolymerisables – 9899P
Dihydropyridines
groups, polymers, from azomethines – 4111P
Dihydropyrroloisoquinolines
oxo, dimers, pigments (blue) – 760
Dihydroquinolinediones
quinonimines, complexes, pigments – 3122P
Dihydroquinolines
photoinitiators, triazines & – 2146P
Dihydroxypropylcellulose
complexes, with boric acid, viscosity – 3331
synthesis/NMR (carbon-13)/viscosity – 3331
Diisocyanates
aliphatic, from urethanes from olefins – 167P
aromatic
—ester links, synthesis/polyester-urethanes – 6499
—liquid crystals – 6499
cycloaliphatic rings, from aromatics/carbonates – 168P
determination, in air, sampling/chromatography (ion-pair) – 9686
immune system, antibodies/allergies – 2952
modification, allophanates groups – 6517P
of cyclohexane
—derivatives (blocked), powder coatings – 4203P
—isocyanurates – 7109P

Diisocyanates *(continued)*
polyisocyanates, isocyanurate groups, synthesis – 4967P
products
—blocking resistance – 1517P
—with polycarboxylic acid (anhydrides) – 9156P
—with polycarboxylic acids/anhydrides – 6516P
—with polyethers (amino-functional) – 180P
reaction
—with butanol, monitoring – 1235
—with carboxylics/anhydrides, catalysts – 7351P
—with polybutadiene (hydroxylated), kinetics – 3282
Diisopropylnaphthalenes
solvents – 5640
Diketones
anticorrosives, zirconates/silanes & – 5935P
photoinitiators
—amines (unsatd, ketonic) & – 605P
—coumarins & – 5460P
—sensitisers & – 606P
photosensitisers – 1298
polymers – 129P
Dilatometry
polystyrene – 7727
Diluents
proprietary, for epoxies – 2290
Diluents, Reactive
acrylates
—of decanols (branched) – 3987P
—of methyloctanediols – 3143P
—requirements – 8752
—silanol groups – 1501P
adhesives (cyanoacrylate), polyether acrylates – 997P
air-drying compsns – 941
curing, FTIR – 6931
diacrylates, irritation/hexanediols replacement – 5421
eugenol derivatives – 7261P
fatty acid esters (unsatd) – 8243P
for epoxies, review – 113
glycidyl ehers (halogenated) – 3548
high-solids coatings
— 6544P, 7380P
—surfactants like – 3346P
oxazolidones (unsatd) – 2141P, 2142P, 2143P, 2144P, 2145P
polyols (esterified) – 1493P
polyurethanes (unsatd), for air-drying – 6506P
proprietary, glycidyl ethers – 5447
radiation-curables, viscosity/mechanical properties & – 9848
sealers (water-borne), epoxy compounds – 8547P
silōxanes (unsatd) – 2168P
stoving finishes, polyethers (hydroxylated) – 6402P
ultraviolet-curables, vinyl ethers – 5409
Dilution
advice, to painters – 3448
Dimer Acids
See also carboxylic acids
dicarboxylic content high, & polymers – 3136P
epoxidised, electrical insulation, polyimides/diene polymers – 1701P
epoxies (modified) – 4662P
epoxy esters – 3259P
products
—with diamines/monoacids – 9310P
—with polyether-urea diamines – 6509P
reaction, with ethylenediamine, kinetics – 888
Dimet Pty
acquisition, by Winn & Coales International – 7856
Dimethyl Isophthalate
coalescing agents, powder coatings – 3361P
Dimethylacetamide
monitoring (biological) – 4504
Dimethylaminoethyl Acrylate
polymerisation, to polymers/main chain ammonium – 5751
Dimethylaminoethyl Methacrylate
block copolymers, quaternised – 8658
networks, from polyisobutene/terminal acrylates & – 837
Dimethylethanolamines
toxicology – 5366
Dimethylformal
hazards/safety/regulations – 7018
Dimethylformamide
carcinogenicity
—studies – 7779
—with/without acrylonitrile – 2065
epidemiology, with/without acrylonitrile – 2066
exposure, livers – 4602
livers – 7780
Dimethylolpropionic Acids
polyurethanes, dispersions (aq) – 218, 5779
DIN Cup
flow time determination – 6345
Diols
spiro compounds
—orthocarbonates – 6479P
—orthocarbonates, thioethers groups – 4944P
synthesis, aldehydes coupling – 7990
Dioxane
determination, in air – 4589
groups, phosphonates, by transacetalisation – 3309
hazards/precautions – 8710
hazards/toxicity/uses/properties/safety – 7221
substituted
—coatings for plastics – 5204P
—trichloromethyl, alkyds, flame retardance – 435
toxicity/hazards/regulations (French) etc – 4589
Dioxaphospholanes
polymerisation (cationic) – 2401
Dioxazine Dyes
inks (water-borne), antioxidants & – 276P
Dioxazine Pigments
from crude – 35P
Dioxins
chlorinated
—accidents, inhabitants monitoring/decontamination etc – 6176
—sources/pollution/exposure/toxicity etc – 8728
polyvinyl chloride combustion products – 6173, 6184
Dioxolanes
fluorinated, chlorinated – 7264P
groups, phosphonates, by transacetalisation – 3309
polymerisation (cationic), telechelic products – 4100
wood preservatives, chlorophenyl/triazinyl groups – 2737P
Dioxoles
fluorinated, chlorinated, & polymers therefrom – 7264P

Dip Coating
dipping in oil/aq layers – 1756P
handling equipment for, automation – 2626
nitrile rubber, feasibility/viscosity – 6868
thick coatings, edges coverage – 4173P
two-stage, same compsns/higher concentration – 1749P
Dipentaerythritol
acrylates (polyfunctional), photocurables – 9880P
esterification, acrylic acid self adducts – 8114P
transacetalisation, of diethoxyethylphosphonates – 3309
Diphenyl Compounds
unsaturated, heat-curables, imides (unsatd)/stabilisers & – 5753P
Diphenyl Disulphide
derivatives, polyimides – 8132
Diphenyl Ether
brominated
—synthesis – 8484P
—thermal degradation, presence air, products – 9542
carboxylated, polyimides – 904P
substituted, antifoulants – 5954P
Diphenyl Sulphide
carboxylated, polyimides – 904P
polymers (ladder), & infrared – 182
sulphonium salts from – 601
Diphenyl Sulphide Tetracarboxylic Acids
products, with spiro diamines – 9177P
Diphenyl Sulphones
See also bisphenol S
carboxylated, polyimides – 1628P
hydroxylated
—alkoxylated, polyesters, coatings – 9504P
—synthesis – 7268P
polyimides (aromatic) – 8147P
Diphenylamine
inhibitors, against autoxidation – 9003
substituted, nitro etc groups, antifoulants – 8462P
Diphenylethanes
chlorinated, toxicity, review – 9799
fluorinated, polyimides – 9141P
Diphenylethylenes
See also stilbene entries
reaction, with oligomers (living) – 4099
Diphenylmethane
fluorinated, & uses – 3322P
synthesis, from dibenzyl ether wastes – 7262P
Diphenylmethane Diisocyanates
blends etc, polyurethanes (two-component) – 4110P
blocked
—determination – 6116P
—water-bornes, polymers & – 3350P
determination, in air, sampling/chromatography (ion-pair) – 9686
hydrogenated, synthesis, plants (US) – 7892
modified, isomers ratios determination – 6943
oligoethers modified by – 5754P
pneumonitis (hypersensitivity) – 7043
polymeric, isocyanurates groups – 9136P
polyurethanes/model carbamates, photochemistry – 887
prepolymers
—from cycloaliphatics & – 900P
—from polyols (alkoxylated)/polymers – 1620P
—moisture-curables – 4159P
—products with chain extenders – 9230P
—stabilisers & – 1621P
—stability (storage) – 1620P
—synthesis, joint ventures – 4728
products
—with alcohols etc/its uretonimines – 5018P
—with polyethers, two-component compsns – 2701P
reaction, with urea, NMR – 4522
statistics/forecasts, markets/demand/raw materials – 5521
synthesis
— 679
—capacity expansion plans – 679
—plants (Japanese) – 3889
—plants (planned), Korea – 5546, 5551
—plants (US) – 7871
Diphenylmethanes
photocurables, for strength – 5473P
Diphenylolethanes
epoxies – 871P
Diphenylolmethanes
substituted, methyl etc groups, stabilisers – 64P
Diphenylolpropane
See also bisphenol A etc
Diphenylpropane
derivatives, polyimides – 4108P, 4157P
fluorinated, acetylene groups – 7266P
Diphenyls
chlorinated, toxicity/regulations/exposure limits – 9766
electropolymerisation, factors – 4897
hydroxylated
—acrylates, polymerisation/kinetics – 4920
—aminophenyl ethers, polyether-imides – 1700P
—antifoulings – 8464P
—synthesis from bromo, catalysts – 1500P
unsaturated, hydroxylated, polymers, epoxies/chelates & – 2612P
Diphenyltetracarboxylic Acids
esters, plasticisers, heat resistance – 1824P
Dipropylene Glycol Monobutyl Ether
water-bornes, properties – 7992
Dipropylene Glycol Monomethyl Ether
alkyds &, concentrates properties – 9010
GC, purity/impurities – 8926
specifications – 8937
Dipropylenetriamine
curing agents, contaminants effects – 4052
Dipyridyls
antibacterial activity, chemically-bound – 5957P
anticorrosives, acrylamide polymers & – 2698P
Directories
American (North), adhesives/raw materials etc – 7854
Canadian
—painting (contract) – 8345
—raw materials/paint manufacture/application etc – 4990
chemicals/equipment – 6360
chromatography, equipment/services – 5297
cleaning equipment, laboratories – 9653
EEC, publications (official) – 4792
European
—paints/inks manufacturers lists – 10007
—paints/inks raw materials/equipment – 10007
expert systems – 4802
French, raw materials/paints/equipment – 5600
German
—chemicals/services – 3100
—finishing – 6366
—pigments/fillers, properties/suppliers/uses – 5604

Directories *(continued)*
German (West), painting materials/equipment – 3101
Italian, raw materials/paints/inks/adhesives/equipment – 5607
minerals (industrial), producers – 7943
painting contractors, industrial structures, US/Canadian – 6634
spectrometers – 6102
temperature determination/control equipment – 3709
thermometers (digital) – 7697
UK
—adhesives/sealants – 2238
—building materials – 4801
—companies addresses/directors/product groups etc – 6365
—controllers (programmable) – 7445
—corrosion control – 3093
—decorating – 4806
—decorating products/services – 10006
—finishing (industrial), equipment/materials – 3432
—flow meters – 8577
—furniture industry materials – 7928
—handling (bulk) equipment – 4257
—Kompass – 6364
—laboratory equipment – 10001
—London business directories – 4795
—mixing equipment – 289
—plastics, materials/equipment etc – 4803
—resins – 8954
—sheet metal industries yearbooks – 2243
UK/US, organisations transatlantic business links – 8961
US
—additives – 798
—coatings/linings etc – 8381
—drying oils/fatty acids – 787
—equipment, application/inspection/safety/testing – 8335
—finishing of metals – 4798
—paints raw materials/equipment/services – 4146
—printing inks, raw materials/manufacture equipment etc – 3395
Disazo Pigments
pigment compsns, benzidine derivatives & – 1469P
Disbonding
adhesives, constrained blister tests – 6860
coatings, photothermal radiometry – 5320
corrosion (underfilm) preceded by – 390
electrocoating, from zinc-coated, weathering/osmosis – 5160
electrocoating/steel (zinc-coated) systems, weathering – 5159
epoxies, from rebars, corrosion – 9479
inspection – 5329
swelling &, acoustic emissions – 2835
Discharge Currents
See also electrical discharge
Discolouration
antifoulings, cuprous oxide/hydrogen sulphide – 5943
bisphenol A, colour measurement – 8928
heat-curables, stabilisers against – 2308P
inhibitors against, phosphorus compounds – 4881P
polyvinyl chloride/stabilisers, retardation – 5647
ultraviolet-curables, minimisation – 5424
Discs
See also magnetic discs
Diseases
occupational, reporting, EEC variations – 7930
Disinfectants
books – 1450
Dispensers
for colourants, mixing apparatus – 7375P
Dispersants
– 8975
aminoalcohols, use with other dispersants – 1508
bisimides – 8993P
cationic, paper coatings – 3555
epoxy silanes/amines products, polyesters chains – 8026P
glycol ether esters, for inks ribbons – 5067P
high-solids coatings, testing/pigments etc various – 8017
hydrolysis resistance – 3150P
hyper-
—industrial finishes, incorporation/examples – 8015
—proprietary, use/action/millbases – 795
microgels – 817
phosphates/wetting agents/hydroxides, diphosphates – 3150P
pigment pastes, mixed versus simple – 4866
pigments & – 2919
polyether-urethanes/fatty alcohols (alkoxylated) – 6417P
polyethers (sulphonated), tackifiers emulsions – 9029P
reactive
—melamine resins, for NADs – 4998
—polymerisation presence – 826P
styrenesulphonic acids/maleic acid copolymers – 4878P
triazines, tricyclics (pendent) – 6424P
vinyl alcohol polymers, silicon-containing – 1643P
Dispersants, Polymeric
acrylic acid polymers – 8098
acrylics (acid-functional), for water-bornes – 3152P
acrylics (carboxylated) – 1575P, 5031P
acrylics (fluorinated) – 7393P
acrylics (hydroxylated, fluorinated) – 1151P
acrylics (modified), by polyethers/heterocyclics – 7285P
acrylics/polyvinyl alcohol, for carbonates – 4002P
adsorption, on iron oxide – 8657
amides (unsatd)/fluorocarbons (unsatd) copolymers – 1619P
calcium carbonate & – 3126P
carbonyl groups, emulsion polymerisation – 8056P
coupling agents/polymers products – 7971P
epoxies (monomer-modified), polymerisation presence – 4160P
fluoropolymers (carboxylated) – 7392P
graft copolymers
—precursors – 4896P
—water-solubilised – 4833P
macromonomers copolymers (carboxylated) – 7972P
maleic anhydride copolymers – 4934P
maleic anhydride copolymers/polyethers products – 8024P
maleic copolymers – 9112P

Dispersants, Polymeric *(continued)*
maleic copolymers/sulphonates end groups – 3263P
particulates &, polymerisation presence – 809P
pigment compsns, macromonomers copolymers – 780P, 781P
polyesters/polyethyleneimine products – 1513P
polyisocyanates multistep products – 63P
polyisocyanates/amines products – 4840P
polymerisation presence
—in epoxies – 6464P
—NADs by – 9208P
polymers (carboxylated), from epoxy esters etc – 4190P
polyols, polymerisation presence & low MW polyols – 9030P, 9031P
reactive
—coatings, hydrazines derivatives & – 8056P
—polymerisation presence – 826P
—polymerisation presence, NADs – 6541P
reactive groups, polymerisation presence, dispersions – 9207P
silyl groups
— 5654P, 9208P
—polymerisation presence, NADs by – 9209P
styrene/methyl methacrylate copolymers (hydroxylated) – 1861P
suspension polymerisation, acrylics (carboxylated)/silica – 9041P
synthesis, in situ – 4840P
testing/properties/proprietary/use – 8014
thermosetting polymers – 4179P
Dispersibility
antimony pentoxide – 2748P
carbon black – 4843P
carbon black (modified) – 33P
determination, titanium dioxide – 2924
dyes (modified) – 773P
epoxies (modified) – 6555P
ferric oxide (gamma-)
—acrylics, factors – 2258
—polymers/phosphates (acidic) groups – 2927
iron oxide, magnetic coatings – 1018P
kaolin (treated) – 3114P
magnetic particles (treated) – 7977P
magnetic pigments (coated) – 5631P
magnetic pigments etc, acrylic/urethanes binders – 624P
microparticles – 9059P
pigment compsns
—drying (spray/freeze) – 2268P
—phthalocyanine pigments (copper) – 3968P
—pigments/diimides – 7979P
—triazines – 8985P
pigment concentrates, pigments (coated) – 4826P
pigments
—alkyds (modified) for – 3249P
—alkyds modification, acid/base interactions – 3738
—alkyds/maleates for – 3269P
—polymers/phosphates groups (pendent) – 4951P
pigments (inorg)/nitrocellulose – 1471P
pigments (org)
—plasma treatment – 1463
—treatment – 34P
powders, polyurethanes (unsatd) & – 8769P
printing inks powders – 2593P
recording materials (magnetic), radiation-curables – 1317P
titanium dioxide (coated) – 19P
Dispersion
aluminium pigments – 3578
degree
—assessment – 2924
—assessment methods – 2010
—clays (modified), monitoring – 2829
—infrared scattering – 5317
degree (relative), by tinting strength – 6338
dispersants (hyper-) use in – 8015
liquids, impellers speeds/surfactants – 4256
magnetic coatings – 5452
magnetic pigments, monitoring/mechanisms – 4462
modelling, probability equations/measurable paint properties – 2940
pigments
—dispersants (hyper-) – 795
—equations – 2251
—extruders/ink stock – 4240P
—mills (disc)/fineness of grind, standards – 5593
—standards (proposed) – 3091
—surfactants & – 2255
—theory/equipment (various) evaluation – 5076
—wetting/positronium annihilation – 6092
principles/equipment/deaeration – 2617
theory/mechanisms/stages – 8975
titanium dioxide, in polyesters – 4835P
water-bornes, after application – 1663P
Dispersion Polymerisation
methyl methacrylate
—emulsification/ultrasonics – 7307
—non-aq media/stabilisers – 6453
particle size – 2355
presence polymers/silyl groups – 9491P
seeded, styrene/chloromethylstyrene – 5733
stabilisers, particulates/organics – 809P
Dispersions
See also non-aqueous dispersions, organosols & plastisols
biocides/polymers, ammonium compounds – 3535P
concentrated, interactions, light scattering – 6987
coupling agents, titanoxanes (cyclic) – 9044P
ferric oxide (gamma-) – 9316P
fluoropolymers, low MW, from fluoropolymers fluorination – 5771P
graft copolymers, in polyolefins solutions – 2530P
macromonomers polymers/polyisocyanates – 4115P
magnetic pigments, dispersion/orientation characterisation – 4550
microparticles, oxides, manufacture – 1478P
particles (core/shell), carboxylated/fluoropolymers – 7335P
phase behaviour, associating polymers &, theory – 6156
polyisocyanates, in polyols/polyamines, surfaces blocking – 9137P
polymerisation for
—dispersants (polymeric, reactive) – 9207P
—in situ, in epoxies – 6464P
polymers
—manufacturers, activities/aims etc – 5567
—market (world) – 5567
polytetrafluoroethylene, surfactants etc & – 1142P
polyurethane-ureas (unsatd), in diluents (reactive) – 3303P
proprietary – 8045

Dispersions *(continued)*
silica
—non-aq, trace water effects – 759
—stabilisation by grafting – 2263
silica (treated), in weakly polar – 6153
vinyl acetate polymers, plants expansions – 3895
Dispersions, Aqueous
acrylics
—blends, hydrazides (polyfunctional) & – 6551P, 6552P
—stabilisation (steric) – 224P
acrylics (cross-linked) – 1670P
acrylonitrile copolymers – 8220P
adhesives (water-borne) – 2572
benzidine (chlorinated), surfactants (non-ionic) – 9020P
calcium carbonate
—dispersants (polymeric) – 4002P
—dispersants blends – 3126P
carboxylated compounds/polymers – 4183P
coatings, properties/comparison solvent-bornes – 1660
curing accelerators, esters (unsatd, neutralised) – 7395P
dispersants, polyether-urethanes/fatty alcohols (alkoxylated) – 6417P
dispersants (polymeric), polymers (carboxylated) – 4190P
epoxies
—dyes in particles – 9304P
—pH stability/electrocoating – 125P
—self-emulsification – 133P
ethylene/vinyl acetate copolymers (saponified), via solutions – 3352P
fire retardance, antimony oxide (condensed) sols – 1834P
latices (core/shell), acrylonitrile copolymers – 8221P
latices (modified), monomers swelling/polymerisation – 7294P
lubricating coatings, silicones/waxes products – 5030P
methacrylamide (substituted) copolymers – 8218P
microparticles, dispersibility to form – 9059P
microparticles (cross-linked), polyester-urethanes – 5787P
particles (core/shell), carboxylated/fluoropolymers – 7335P
photoresists, polymers/pendent diazoquinones – 7111P
pigment compsns, surfactants/resin dispersants not needed – 4851P
pigments, dispersants (polymeric) – 4833P
polyester-urethanes – 6415P
polyesters/polyurethanes, rheology & – 4228P
polyisocyanates – 8179P
polyisocyanates (self-emulsifiable)/polymers (co-reactive) – 9149P
polymerisation for
—in solvents, presence carboxylated – 4176P
—presence polyurethanes (polyether-modified) – 9229P
—surfactants (unsatd/thioethers groups) – 9234P
polymers, from polymers/monomers emulsions – 9052
polymers/emulsifiers (internal), for solvent-bornes & – 142P
polymers/polyurethanes (polyether-modified) – 9229P
polytetrafluoroethylene, surfactants etc & – 1142P
polyurethane-ureas, epoxies & – 5026P
polyurethanes
—advantages/cross-linking agents/uses – 8199
—polymerisation presence – 4188P
polyurethanes (carboxylated), ammonia neutralisation – 2543
polyurethanes/polymers – 9230P
polyvinyl acetate, ethyl silicate/aluminophosphates & – 3356P
rheology, coatings structure & – 3626
siloxanes/silicones/copolymers – 4352P
stability (storage) – 6552P
surfactants-free
—acrylics/pendent phosphates groups – 9222P
—polymerisation (solution) for – 9222P
—polyurethanes/vinyl polymers – 9236P
titanium dioxide, stabilisation/charges/isoelectric point etc – 2919
Dissolution
cellulose, in water/ammonium/cosolvents – 7993
rates, determination, acrylics, comonomers effects – 6978
slow, acrylics, silyl/bicycloheptane etc groups – 7368P, 7369P
Distillation
control, inferential, adaptive estimation algorithms – 1026
ethyl acrylate, after synthesis, fouling inhibition – 4861P
fatty acids (unsatd), energy saving/waste water – 3134
reduced pressure, solvents removal electrocoating compsns – 9232P
simulation, polyesters synthesis – 2389
solvents recovery
— 5385
—plants/proprietary systems – 9805
Distinctness of Image
substrates &, roughness – 3607
Distyrylpyrazines
photopolymerisation, cyclobutane rings formation – 2990
polymers, photochemistry – 2990
Dithiocarbamates
antifoulants, tetrachloroisophthalonitrile & – 5959P
antifouling paints – 426P
antifoulings, copper materials & – 8476P
biocides, hexahydrotriazines & – 2728
groups
—polymers, antifoulants – 8474P
—terminal, polymers, chain extension – 4644
mixed,
ethylenebis(dithiocarbamate)s/diethiocarbamates – 5959P
photoinitiators, initiator/transfer agent/terminator – 9844
toxicology/environment, review – 5383
ultraviolet-curables, hydrogen control – 9901P
Dithiolones
biocides, thiocyanates/isothiazolinones & – 1814P, 2738P
Divinylbenzene
polymers, graft copolymers – 2382P
polymers (modified), by amines/alkali metal amides – 5691P
Divinylbenzene Copolymers
See also styrene/divinylbenzene copolymers

Do-it-yourself
advertising, expenditure – 5518
coatings, masonry/walls/wood, 'Which' reports – 6805
emulsion paints, wastes from, utilisation – 7793
gloss paints, UK – 7139
hazards, chemicals, books – 8953
painting, application methods/advice/brushes cleaning – 2536
paints, manufacturers acquisition (UK) – 703
paints (proprietary) – 8180
retailers (UK), stores acquisition – 2206
retailing, UK/forecasts/geographical – 8835
statistics (Dutch), value/retailing – 1343
Docks
safety, regulations (UK)/codes of practice – 1395
Docks Regulations 1988
codes of practice – 1395
Dodecyl Entries
See also lauryl entries
Dolomite
extenders, properties/health & safety – 8
Domestic Appliances
adhesives, heating (induction) – 9286P
anticorrosives, undercoats, epoxies/particles – 1086P
coatings
—acrylics/polyesters products – 6012P
—ethylene carbonate groups – 134P
—fluoropolymers/polymers (carboxylated)/epoxy compounds – 2776P
—polyesters/amino resins – 8558P
—types/future/statistics etc – 1849
coil coatings
—advantages etc/use – 3568
—requirements etc – 8515
—surfaces, similar to sprayed – 4156P
electrocoating, defects/causes/control – 1659
heat-curables, polyether-esters – 9110P
manufacture (US), companies/coatings/opportunities – 9925
metallic finishes, basecoats, self-crosslinkables – 5234P
painting, plants (French) – 6660
plastics, coatings, cyclopentyl acrylate polymers/polyolefins (chlorinated) – 1842P
plastics &, moisture-curables – 9549P
powder coatings
—diallyl terephthalate copolymers – 9249P
—market (US) – 6244
steel (coated)
—epoxy/polyesters & isocyanates – 6841P
—polyurethane coatings (one-pack) – 4170P, 4171P
—stoving finishes, aluminosilicates – 1152P
temperature-indicating compsns – 4441P
Doors
coatings, corrosion resistance, standards – 6359
steel
—finishing, requirements/application/compliance – 3445
—frames &, coated steel, standards – 7211
ultraviolet-curables – 5414
wooden, coatings/defects/repair – 308
Double Bonds
See also unsaturation
trans
—determination in fatty acid esters – 517
—determination, fats/oils, FTIR/automation – 3695
Double Layers
See also electrical double layers
Dow Chemical Co
acquisitions by, of Essex Chemicals – 705
diphenylmethane diisocyanates plants – 679
ethylene/acrylic acid copolymers, plants expansion – 9933
joint ventures, Exxon Chemical & – 3910
polyols, business transfer from BP – 4720
Drawing
bottle caps, primers/inks tolerant to – 2802P
cans, coatings before/curing after – 3585P
spin necking &, coatings/inks – 3572
temporary coatings, fluoropolymers powders/monomers – 8539P
Driers
– 4873
accelerators for, chelating agents – 2298
auxiliary
—chelating agents – 2298
—organo-aluminium compounds – 2302
cerium, colloids, oxides/hydroxyphenylcarboxylic acids – 8033P
cobalt
—chelating agents & – 2298
—from soapstock, compatibility/lower phosphatides – 8025P
—liquid, regulations (UK), exclusion – 712
—stabilisers, acids (fugitive) – 68P
combination
—cobalt/lithium – 3145
—cobalt/zirconium, with/without calcium/barium – 3145
inhibition (reversible), fugitive acids – 2311P
lead
—replacement – 3145
—replacement, zirconium compounds – 9022
manganese, from soapstock, compatibility/lower phosphatides – 8025P
mechanisms, analysis techniques & – 2856
solubilisation by – 3486P
stabilisers, acids (fugitive) – 68P
vanadium, high-solids coatings – 8195P
water-bornes, traditional/water-emulsifiable driers – 52
zirconium, lead replacement – 9022
Drinks
See beverages
Driography
inks
—amines – 1708P
—cyclopentadiene polymers (modified) – 9303P
—epoxy compounds – 3403P
inks (ultraviolet-curable), resins amine modification – 6242P
printing inks, titanium dioxide – 5065P
printing inks (radiation-curable), silicones additives – 9895P
Drops
formation, nozzles wettability – 541
interfacial tension determination, liquids/liquids – 1254
movement, on surfaces, chemical/thermal gradients – 7709
size
—contact angle relationship, temp/vapours effects – 3761
—spraying – 4797

Drums
disposable, printing inks vehicles – 2123
emissions, exhaust hoods (annular)/air flow – 9811
filling, electricity (static), incidents/guidelines/types – 2057
from plastics
—advantages – 7066, 9826
—flammable liquids/electricity (static) – 2106
handling etc, investment costs/conveyors systems & – 9826
steel
—advantages – 2981
—reconditioning – 7806
valves etc/developments/plastics drums – 7066
Dryers
belt-type, air flow – 7488
for air, for spraying – 6623
Drying
See also curing & infrared drying
coatings, testing, ovens (gradient) – 7711
evaporation rate calculation – 2031
freeze
—equipment/uses – 7452
—pigments/surfactants – 2268P
heat balance/solvent balance, modelling – 1248
metallic finishes, flakes orientation – 2819
modelling, solvents diffusion/evaporation – 3758
particles, of polymers – 3980P
printing inks, emissions incineration/heat recycling – 9804
solvent-bornes, mechanisms, review – 3339
spray
—antimony pentoxide sols – 2748P
—humidity/temp fields, experiments – 2620
—modelling, trajectories/humidity/evaporation/temp etc – 2619
—pigments/surfactants – 2268P
—siloxanes/polymers powders by – 1676P
time, alkyds, reduction by NADs – 9213P
vacuum
—granulation – 6626
—granulation & – 5853
Drying Oils
directories (US), producers/properties/trade names etc – 787
drying, viscosity changes/networks formation – 9644
maleinised, products with alkyds – 4191P
modification by, then maleinisation – 5791P
NMR (carbon-13) – 2873
polyurethane compsns, plasticisers & – 5037P
synthetic
—directories (US) – 787
—pentadiene copolymers – 5683
DSM Italia SpA
formation – 4710
DSM NV
financial performance/acquisitions – 7160
powder coatings, actions various countries – 4710
DSM Resins
laboratories, research & development, Netherlands – 1371
DSM Resins BV
joint ventures
—Beijing Red Lion Coatings Corp & – 3058
—maleic anhydride – 5548
melamine
—plants (new)/joint ventures – 6309
—plants (planned), Netherlands – 7873
reorganisation – 7888
Du Pont de Nemours & Co
acquisitions by, of Howson-Algraphy – 7185
joint ventures
—Kansai/Kun Sul, Korea (South) – 3911
—Toyo Ink inks marketing – 6299
—with Neochem Polymeres – 4728
printing/recording materials activities – 7185
titaniferous ores, Florida, new section – 6310
titanium dioxide
—feedstock in Brazil – 7162
—manufacture, Brazil – 9959
—Mexican plants expansion – 9930, 9935
Du Pont do Brasil
titanium dioxide, plants (planned) – 2196
Duplex System
– 2654
adhesion, weathering & – 7532
corrosion, mechanisms/zinc (alloy) type etc – 5920
phosphating, small components etc – 4300
powder coatings, polyesters – 6725
steel (zinc-coated), Zn/Ni alloys, organics/silicates & – 6703
Duplicating
See also copying entries & electrophotography
Dupont Neochem
joint ventures, Dow/Neochem, polyurethanes intermediates – 4728
Durability
adhesives, for steel (zinc-coated) – 2569
coatings
— 6721
—over rust, tolerant systems – 8379
—titanium dioxide – 2658
prediction
—coatings degradation studies/tests – 9457
—probability & – 8407, 8408
road marking compsns – 7607
tanks (manure) – 1070
testing, automation, robots – 512
urushi varnishes, structure & – 2314
wood stains, expectations (unrealistic) – 6803
Dural International Corp
acquisition, by Laporte – 3893
Dusting
determination
—chambers (bench-scale) – 5313
—correlation with exposure – 4616
factors, humidity etc – 5313
Dusts
asbestos, enclosures against – 3931
blasting &
—abrasives – 9346
—safety – 7038
buildings (domestic), adsorption on, & inhalation – 4564
collection, filters/calculation – 583
collectors, anticorrosives, abrasion resistance – 1796P
contaminants, removal from painted surfaces – 1743P
contamination by, during painting – 2638
control
—equipment (proprietary) – 8723
—powders handling/weighing – 8715
explosions
—electricity (static) – 3097
—explosive potential tests results – 2112
—explosive potential, determination/parameters – 4605
—hazards/testing/measures – 5349

Dusts *(continued)*
—parameters (measurable)/assessment/measures – 2097
—research – 2062
—venting – 2062
—vents sizing – 2094, 4607
explosive limits, prediction/comparison – 2093
exposure, cameras (video)/bar graphs – 7783
exposure/control, powders packaging plants – 9767
extraction, vehicles (motor) finishing shops – 7049
filtration
—cartridges/equipment – 6623
—electrical fields/corona discharge effects – 7454
FTIR/microscopy, particles/clusters – 6928
generation, testers, correlation with exposure – 4616
hazards, dust materials/effects, review/books – 733
ignition, sources, sparks/hot surfaces – 2053
lead compounds – 5390
lead in
—houses, variability/painting – 2976
—paint stripping (domestic) – 2119
painting &, booths etc retention – 8365P
paints/pigments manufacture, control – 7803
phthalic anhydride, sensitisation by – 9759
polishing, coatings against – 8538P
powders handling, laboratories/ventilation – 5353
precipitators (electrostatic), for rigs, emissions control – 2975
railway stock loading, ventilation against – 5350
removal, vacuum cleaning systems (centralised) – 3788
respirable, determination – 1429
titanium dioxide, toxixology – 3780
wood
—phenolics &, respiratory systems – 1274
—respiratory systems, formaldehyde & – 2078

Dyes
See also types of dyes, e.g. azo dyes, individual materials, & lakes
acid, products with ammonium, inks – 7439P
allergies – 2049
carcinogenicity – 2049
chemically-bound dyes/polyethers/polylactones units – 7247P
coatings
—shellac under/over, violins – 4454P
—violins – 8560P
colour changes, solvents loss indication – 8986P
dermatitis (contact) – 552
hydroxylated groups, printing inks (ink jet) – 9295P
identification, microanalysis techniques – 5286
initiators, counterions (reactive) – 7106P
isoxazole etc rings, tellurium ring atoms – 2148P
leuco, encapsulation, temp-indicating compsns – 4441P
lightfastness, stabilisers (light) & – 3155P
linings, for reactors – 827P
market (European), statistics/forecasts – 666
modified
—by isocyanates – 278P
—by isocyanates etc, dispersibility – 773P
—polyether chains, pigment compsns – 4851P
organo-boron counterions, photoresists – 8773P
paintings (old), Central America – 7950
particles containing, epoxies & – 9304P
photochromic compsns, triazines etc & – 5240P
photography, determination, Raman – 6052
photoinitiators, acrylic/urethanes (photo-oxidisable) & – 3831P
photoresists, lasers – 1321P
pigments, from ion-exchange materials & – 1472P
pigments (polymeric) – 31P
products, with acrylics, inks (hot-melt) – 7436P, 7437P
resists, oily/water-soluble, gamma-rays – 8783P
special, electro-optical uses, review – 7235
statistics (UK) – 4691
statistics/forecasts (US), pigments & – 4681
sublimation, tetrahydroquinolines (substituted) – 9322P
vesicles containing, printing inks (water-borne) – 3405P
water-soluble
—insolubilisation – 26P
—ion-exchange materials & – 8980P
—ion-exchange materials &, pigments – 775P, 776P

Dyno Industrier
joint ventures, cross-linking agents – 3892
urea resins/adhesives, plants (planned), Malaysia – 1375

Dyno-Cyanamid
cross-linking agents, plants expansion – 3892

E

Economics
companies (UK) financial performance – 1449
companies with UK/US links – 8961
customs duties/trade items classification, EEC – 1385, 3078
EEC financing, regulations (UK) – 1393
European Economic Interest Grouping – 8861
financial aid, UK/EEC/European Investment Bank sources – 8837
foreign trade/standards effects – 10000
radiation-curables, cost/performance analysis – 5496

Ecuatoriana de Resinas SA
acquisition, by Union Carbide – 6302

Eczema
metals/plastics/rubber – 5343

Edges
coverage
—calculation, models – 6642
—coatings – 8529P
—electrocoating (cathodic) – 2557P, 5491P
—electrocoating, additives, stoving & – 9235P
—electrocoating, binders/fibres – 972P
—powder coatings – 3363P, 8237P
—thixotropic coatings – 4173P
electrocoating, corrosion resistance – 1793P
electrocoating (cathodic) – 3452P
electroplating/electrocoating – 973P
powder coatings, excess avoidance – 1682P
spraying, polyurethanes (one-component) – 5123P
swelling, avoidance – 4671P
tapes (steel), coiled, anticorrosives – 1076P
touch-up, by electrodeposition – 329P

Education
paint technology, courses – 7908

EEC
See European Economic Community

Efflorescence
cementitious coatings, precautions – 936
concrete (coloured), mechanisms/avoidance – 5148
Effluent Processing Club
– 9945
Effluents
See also emissions & stoving entries
AAS, cathode tubes (hollow)/interferences – 3640
analysis, AAS – 1906
atomic emission spectrometry – 4478
chlorinated compounds, limits/EEC directives – 1384
cleanliness, investment – 9941
control, UK, environmental quality standards/Red List – 9801
epoxies synthesis, salts recovery – 7799
formaldehyde, treatment – 5389
galvanic industry, iron oxide from electrodes & – 36P
hazardous chemicals, drinking water/regulations (US) – 9985
metals (heavy), treatment – 7059P
monitoring, carbon (org, total) – 8647
phosphating, monitoring – 9340
phosphating/electrocoating, treatment – 4619
pigments manufacture, treatment – 7792
regulations (UK) – 9976
regulations (US)
—prohibited substances – 2972
—various chemicals – 3082
sampling, electrochemical cells – 2870
solvents, sewage treatment workers exposure – 4592
titanium dioxide manufacture – 2201
toxic materials, regulations (US)/finishing – 581
toxicity, testing, test organisms use – 9814
treatment
—trends/methods – 3786
—UK/clubs/manuals/regulations/research centres – 9945
—UK/manuals/privatisation effects etc – 8735
—water (waste) & proprietary – 6624
Eicosane
grafting, with anhydrides, not chains – 118
groups, surfactants (anionic) – 6409
Eiffel Tower
painting, paints suppliers – 3901
Eiger Engineering Ltd
acquisitions by, of Torrance – 8319
Elaeostearates
autoxidation/reductive ozonolysis, products – 6394
Elasticity
epoxies (cured), structure & – 3629
powder coatings, polyvinyl butyral, additives – 1677
Elastomers
ageing, pressure-sensitive adhesives & – 8249
coatings
—uses/advantages – 7441
—water uptake/diffusion – 6965
cross-linking, review – 8051
curing, review – 8051
mixing, curing &, properties – 1530
plastics &, toughening – 4015
synthesis
—manufacturers (US) business transfer – 7903
—manufacturers investment plans – 7168
testing (non-destructive), methods/defects diagnosis etc – 1246
treatment, polyurethanes adhesion & – 8596
Electrical Components
adhesives (conductive) – 8267P
coatings, hydroxylics/metal compounds/anhydrides – 940P
coatings/sealing, photocurables – 2170P
Electrical Conductivity
See 'conductivity, electrical'
Electrical Currents
See also telluric currents
Electrical Discharge
See also discharge currents
thermally-stimulated, relaxation map analysis – 6980
treatment with, chlorinated gases & – 8364P
Electrical Double Layers
contact angles – 8663
oxides, ions & – 9745
Electrical Equipment
See also domestic appliances, heaters (electric), refrigerators etc
anticorrosives
—dry-on-wet/wet-on-wet – 7506P
—undercoats, epoxies/silica – 1085P
coatings
—hydroxylics/anhydride groups/chelating agents etc – 2798P
—phosphates (unsatd)/polymerisables – 2166P
—polyamide-imides, siloxanes groups – 2497P
—siloxanes/metals salts – 1171P
electrocoating, application (wet-on-wet) – 1793P
explosive atmospheres, EEC directives/European standards – 3077
instruments, high-build coatings – 3493P
powder coatings
—amines (hindered)/spiro groups/polymers – 1686P
—cores/coils securing – 3362P
powder coatings application, hazards – 7770
strippable coatings, polyurethanes – 6026P
transparent coatings, acrylics – 2797P
ultraviolet-curables, siloxanes (unsatd) – 8807P
verification/inspection/control, organisations – 7921
Electrical Fields
filtration
— 7454
—with/without ultrasonics – 3428
phase separation (transient), microemulsions – 8703
polymerisation (cationic) – 2357
Electrical Insulation
See also wire coatings & wires
acrylics, solvents (fluorinated/non-fluorinated) – 4371P
adhesives, microspheres (hollow) – 5823P
adhesives (heat-resistant) – 9279P
adhesives with – 1701P
borosiloxanes – 2750P, 2751P
cyanates/bismaleimides – 6521P
electrocoating
—polyamide acids – 5793P
—polyamide-imides – 9535P
electron beam-curables, flame retardants, formulation – 5184
epoxies
— 4935P
—boron trifluoride complexes/bismaleimides & – 4411P
—metal ions migration control – 2743P
epoxies (linear, modified) – 8779P

Electrical Insulation *(continued)*
epoxies/maleimides (polyfunctional) – 4373P
epoxy/novolacs – 434P
epoxy/novolacs (unsatd) – 5487P
epoxy/phenolics, novolacs & – 5239P
glycidyl esters/novolacs – 433P
hardness, determination – 1364
heat resistance, polysulphones/thermosetting resins – 1105P
interpenetrating networks – 4012
lead sulphide/latices/casein/paraffins – 1823P
maleimides/dibenzalketones – 6507P
monolayers laminates, polymerised – 3451P
novolacs (fluorinated) – 3321P, 4950P
permeability, low, moisture scavengers – 6772P
photocurables
—acrylates (polyfunctional), ethers links – 3851P
—polyamic acids/monomers etc – 3011P
photoresists – 6237P
plastics/wood products – 9825P
polyesters, blends, safety/fusing/short circuits – 1103P
polyesters (fluorinated) – 930P
polyesters (unsatd), benzyldimethylamine/derivatives/amines & – 1827P
polyesters/sulphonic acids/dessicants – 8477P
polyether-amines – 5740
polyethylene (chlorinated)/graft copolymers – 6487P
polyimides
—polyamic acids blends/carbodiimides – 8478P
—siloxanes groups (main chain) – 2500P, 2502P
polyimides (fluorinated) – 5335
polyisobutylene/siloxanes (Si-H) products – 9178P
polymers types/uses – 3545
polymers/gallic acid-formaldehyde – 6773P
polyurethane coatings – 4370P
polyurethanes
—castor oil-based – 9150P
—from dienes polymers – 8145P
polyvinyl acetal/isocyanates (blocked)/carbodiimides/uretonimines – 5186P
powder coatings
—epoxies – 431P
—epoxies & epoxy/novolacs – 8479P
—epoxies blends – 432P
—epoxies blends/curing agents systems – 1687P
—epoxies/formaldehyde resins – 1104P
—epoxies/polyvinyl formal etc – 1826P
—epoxy/phenolics – 7587P
printed circuit boards, polyamide-imides – 2744P
radiation-curables, acrylic/urethanes & epoxy/acrylates – 7110P
siloxanes (ladder)
— 1822P
—electronic components/wiring layers – 1145P
siloxanes/imides copolymers – 9185P
thin films, phosphates (acetylenes bridges) – 2985
water in materials, determination – 1987
water-bornes
—casein/zinc oxide/fluoropolymers/latices etc – 5187P
—waxes etc/welding etc – 6774P
—zirconates/silanes/keto compounds – 5935P
Electrical Permittivity
See also dielectric entries
Electrical Potential
colour changes, naphthylaniline polymer films – 8506
Electrical Properties
See also 'conductivity, electrical', dielectric entries, electrical insulation etc
coatings – 6723
determination, powder coatings powders – 6134
moisture-curables, siloxanes/aluminium oxide (hydrated/treated) – 8196P
novolacs, curing agents (proprietary) – 5263
organo-silicons – 7360
polyurethane-imides – 6497
Electrical Resistance
concrete (reinforced) – 9458
corrosion, rebars, measurements/actual – 9405
determination, corrosion under films – 3474
ions, epoxies (linear) & – 347
pigments aq extracts – 5595
water-bornes, presence salt solutions, testing by – 2539
Electricity
See also static electricity
generation, emissions control – 4794
regulations (UK), provisions/guidance – 7915
Electricity at Work Regulations 1989
provisions/guidance – 7915
Electrochemical Measurements – 8424
anticorrosive pigments – 9424
anticorrosives
—electrochemical potential – 6717
—film thickness – 6692
Bode plots v Nyquist – 1058
capacitance (specific), surface areas/corrosion rates & – 1061
chromate coatings
—electrochemical noise – 6710
—for zinc – 6700
coatings
—electrical properties – 6723
—for galvanised steel, interpretation – 6694
concrete (reinforced)
— 6702, 6728, 9458
—impedance – 6736
corrosion
—coatings/impedance, data interpretation – 8393
—electrochemical noise – 3471
—electrochemical noise, equipment/uses – 9406
—equipment – 6709
—equivalent circuits – 1064
—galvanised steel/impedance/data interpretation – 8390
—impressed current protection control – 4319
—methods – 4305
—micro-organisms &, cells – 4350P
—monitoring – 5924
—pseudo-inductive response – 9467
—rates – 4315
—rates, equations – 5155
—rates, rebars – 380
—rebars – 7516
—rebars, galvanostatic transients – 2678
—rebars, laboratory simulation – 9475
—rebars, measurements/actual – 9405
—rebars, methods – 7528
—rebars, modelling/crevices – 9461
—under films, & solutions under – 388
—under films, rapid, potential decay – 6723
corrosion (localised), methods/equipment – 6706

Electrochemical Measurements *(continued)*
corrosion resistance
— 744
—aluminium pigments, AC/DC – 5923
—barrier/inhibition effects separation – 1062
—cathodic bonding efficiency/water uptake – 9434
—data analysis – 5914
—epoxy/polyesters, clear/pigmented – 1054
—magnesium/coatings – 8405
—noise monitoring – 1780
—polyamide-imides on copper – 7641
—zinc compounds – 2256
data analysis/use – 8414
electrochemical noise, corrosion/steel (coated) – 2729
electrodes (segmented), under coatings, one/two metals – 9443
epoxies, ions/electrical resistance – 347
epoxies/humidity, two electrode method – 9442
galvanised steel/electrocoating – 1033
grinding media, corrosion/wear – 3418
impedance spectroscopy – 4311
micro-organisms &, test cells/metals substrates – 9419
phosphate coatings
—non-stationary methods – 3480
—parameters – 321
pigments (metallic), location/type – 1049
pipeline coatings, water migration – 2669
polyamides versus chlorinated rubber – 9450
primers, weathering (natural) & – 6693
rebars – 6737
review – 2690
steel (coated)
—current limiting factors – 1782
—sulphuric/zinc(II)/magnesium(II) – 4309
techniques/possible problems – 4311
vinyl chloride copolymers, plasticisers & – 5137
zinc dust paints
— 352, 360
—epoxies (linear) – 1052
zinc/silicate paints, zinc content effective levels – 4322
Electrochemical Microscopy
scanning, principles/resolution etc – 4480
Electrochemistry
books, & techniques relevant to processes – 736
colour changes, siloxanes/carbazoles groups – 8574
copper, electrodes in perchlorates/chlorides – 4318
corrosion, micro-organisms & – 3483
corrosion &, techniques relevant to – 736
detectors, microelectrode arrays, modelling – 4532
surfaces, scanning/ultramicroelectrodes – 1238
Electrocoating
– 6548
acrylics (fluorinated), stoving above melting – 5794P
anticorrosive pigments
—aluminium tripolyphosphate/lead/zinc – 9231P
—silica (coated)/silicates (coated) – 5021P
application (wet-on-wet), two layers – 966P, 1793P
automation, phosphating &, lines – 4271
automobiles, two layers, cationics/aq NADs in one/both – 237P
baths
—additives, surfactants/viscosity modifiers/solvents – 6563P
—contaminants removal, filtration/hydrophobics adsorption – 2641P
—membrane electrodes/voltage control/uniformity – 8369P
—replenishment, one-component feeds – 5866
—stages/voltage duration selection means – 341P
binders/fibres – 972P
book chapters
— 7224
—chemistry/deposition processes/ultrafiltration etc – 6549
cans
—equipment (high-speed), cans removal – 1747P
—equipment (high-speed), interiors/exteriors – 1746P
capacitors, acrylics – 5784
carbon black, stoving then electrocoating over – 2549
coatings over
—chip resistance – 458P, 1161P
—plastisols – 1717P
—polyesters blends/isocyanates – 9599P
containers, multi-cell high-speed – 333P
cratering, avoidance, by using cationics before – 241P
cross-linking agents, silanes – 2556P
dicyclopentadiene polymers (maleinised) – 4079P
domestic appliances, defects/causes/control – 1659
edges coverage, stoving/flow control agents – 9235P
electrical insulation, polyamide-imides – 9535P
electroplating first from same bath compsn – 973P
epoxies, metals codeposition – 7531
epoxies/non-ionics, coatings over – 8187P, 8188P
equipment, film thickness/hangers/potential setting – 8373P
ethylene carbonate groups/amino groups systems products – 905P
excess solution removal by blowing – 1675P
fasteners, over plating, corrosion resistance – 9505P
film thickness, additives – 6563P
fluoropolymers (halogenated) – 954P
gels (cationic)/resins (cationic) – 8217P
gloss reduction, compsns – 5017P
impact resistance – 1902
microgels, particles (core/shell) – 966P
multilayered coatings, polymers/waxes – 959P
non-aqueous, polyamic acids, theory/experiments – 942
of stainless steel/nickel, before chromating – 1754P
over adhesives – 6601P
over electrocoating
—microgels lower layers – 965P
—stoving between – 2549
photoresists
— 3024P, 7111P
—diazoquinones (chemically-bound) – 7117P
pinholes etc, avoidance – 1755P
plants, suspension units/vehicles (motor) – 8342
polyamide acids, from butanetetracarboxylic – 5793P
polyimides (modified), by amines – 9228P
polyisocyanates (blocked) – 6510P
post-treatment, heat smoothing before curing – 1675P
pretreatment, surfactants (fluorine-containing) – 9380P
principles/process details/uses/binders chemistry etc review – 6546

Electrocoating *(continued)*
resists, stripping compsns – 345P
review
— 4991
—factors/cathodic etc – 6547
silanes (unsatd, modified) copolymers – 2555P
silyl/silanol groups – 5019P
single-coat, binders/fibres – 972P
solvents removal, distillation, reduced pressure – 9232P
steel (metal-coated), corrosion resistance & – 6703
steel (zinc-coated)
—cratering avoidance – 5174P
—weathering/disbonding, various points – 5159
—weathering/disbonding/osmosis – 5160
stripping, compsns – 6676
titanium dioxide, pigment treatment – 6386P
treatment after, with metal ions, before setting – 5028P
ultrafiltration
—& advantages/costs analysis – 2547
—two membranes (separate) – 5126P
vehicles (motor), construction equipment – 3433
voltage application (multi-stage) – 1755P
weathering (accelerated), polarisation (cathodic)/scribes – 2667
workpieces various sizes etc same lines – 341P
Electrocoating, Anodic
automobiles – 6635
binders, review – 6546
blistering, impedance spectroscopy/corrosion – 5906
book chapters, cathodic & – 6549
defects – 1659
defects films rupture, mechanisms (thermal) – 1034
epoxies (modified)
— 1669P
—polymers side chains – 1671P
matt coatings, silyl groups/pigments (flake) – 8216P
matting agents
— 247P
—microgels (cross-linked) – 967P, 968P
photoresists
—acrylics (diazoquinone-modified) – 3834P
—diazoquinones (unsatd) copolymers – 8791P
Electrocoating, Cathodic
air-drying compsns
—microgels & – 8204
—polymers (maleinised)/epoxies – 5791P
aminimide groups/aminohydroxypropyl groups – 9238P
application (wet-on-wet)
—electrocoating/electrocoating – 1793P
—oil absorption values – 5020P
—two layers, coatings/dry-on-wet over – 7506P
automobiles
—anticorrosives, fibres/whiskers – 5491P
—curing temp reduction – 9217
—pretreatment &, lines – 5104
baths, contaminants removal, filtration/hydrophobics adsorption – 2641P
binders, review – 6546
book chapters, anodic & – 6549
chelating agents/ultrafiltration – 4195P
chemistry/advantages/application procedures – 1657
coatings over
—wet-on-wet, polymers (unsatd) – 402P
—yellowing avoidance – 225P
corrosion resistance, epoxy/amine adducts – 6554P
cratering resistance, polymers/vinyl ether polymers – 6560P
cross-linking, catalysts, acetylacetonates – 8228P
cross-linking agents
—biuret groups – 8229P
—topcoats yellowing avoidance – 225P
defects
— 1659
—films rupture, mechanisms/sparking – 1034
domestic appliances, powder coatings & – 6660
edges, improvements, air-drying/microgels – 8204
edges coverage
— 2557P
—stoving/flow control agents – 9235P
electrocoating (cathodic) over, wet-on-wet, first lower parts/second all – 3452P
electrodes for, coated anodes, dissolution resistance – 5891P
epoxies
— 119
—cross-linking agents – 5018P
—film thickness control – 8212P
—isocyanates (blocked) – 8211P
—ketimines/mercaptan groups & – 229P
—powder dry-on-wet on water-bornes on – 5235P
—self-crosslinking/corrosion resistance – 5032P
—stoving odours masking – 4193P
epoxies (advanced)/epoxies – 8213P
epoxies (modified)
— 228P
—blends/ketimines modifiers – 6556P
—by carbamoyl – 8227P
—by Michael adducts – 6571P
—by nitrile rubber (amino) – 125P
—by phenols/amines – 227P
—chloride ions removal – 9223P
—epoxy phosphates – 4198P
—ketimines modifiers – 6555P
epoxies/linking compounds resins, Tg increase – 8219P
epoxies/lower surface tension, basecoat/clear over – 9490P
epoxy/amine adducts, synthesis – 6557P
epoxy/amine adducts (modified)
— 971P
—urea groups – 4186P
epoxy/phenolics (modified, self-crosslinkable) – 4089P
epoxy/polyesters, from polyesters (carboxylated) – 4180P
film thickness, high/factors – 8207
film thickness/rate constant/resin concentration – 2542
films, temperature of during application – 1034
finishing with, agricultural equipment, lines – 4274
flow control agents, microgels (cross-linked) – 2557P
galvanised steel, electrochemical measurements – 1033
heat evolution, cathode temp/factors – 6974
ionisation/polymers/deposition mechanisms, review – 6547
latices
—amino stabilisation/gel content restrictions – 5015P

Electrocoating, Cathodic *(continued)*
—amino stabilisation/Tg over twenty – 5014P
levelling agents – 1617P
matting agents
— 247P
—microgels, hydrophilic exteriors – 69P
microgels
—from cross-linkables/cationics – 243P
—from cross-linkables/water-solubles – 242P
—pigments/metals as cores – 969P
onium groups (polymer-bound)/cross-linking agents – 6574P
over electrocoating (cathodic), oil absorption values etc – 958P
paint manufacture, via immiscible solutions – 4185P
painting (contract), plants – 5103
phosphating
—activation then zinc phosphate – 2640P
—effluents treatment – 4619
—zinc phosphate, effects on layers – 2686
—zinc phosphate, low zinc – 9343
photoresists
—acrylics (diazoquinone-modified) – 3835P
—diazoquinones (unsatd) copolymers – 8790P
plants (new), small items – 5860
polyamines (hydroxylated)/ethylene carbonate groups – 236P
polyimides (modified), problems avoidance – 5780
polymers (hydroxylated)/silyl groups – 2554P
polymers (hydroxylic, amino), cross-linking agents – 8208P
polymers (hydroxylic)/silyl groups, organo-titanium & – 8215P
polymers/silyl groups – 1665P
primer surfacer compsns over – 2552P
proprietary, automobiles, plants – 3429
solvents content
—low – 4185P
—reduced – 4186P
steel (zinc-coated)
—adhesion fracture surfaces – 5274
—phosphating & – 3454P
sulphonium/phosphonium groups, & cross-linking – 246P
topcoats from, acrylics, use/properties – 1656
touch-up after, electrodeposition – 329P
ultrafiltration, costs analysis – 2547
ultrafiltration/electrodialysis – 326P
ultrafiltration/reverse osmosis, iron removal – 2649P
urethanes, from aminoalcohols – 50P
vehicles (motor)
— 6659
—components – 8347

Electrodeposition
chromium oxide, on steel (zinc-coated), paintability – 1043P
metal films by, separation from carriers – 1739P
metals, epoxies simultaneous – 7531
touch-up by – 329P

Electrodes
copper, in perchlorates/chlorides, chemistry – 4318

Electrodialysis
electrocoating (cathodic), ultrafiltration & – 326P

Electrographic Recording
See 'recording, electrographic' & 'recording, electrostatic'

Electrokinetic Potential
See zeta potential

Electroless Deposition
metals, polymers modification by – 8055

Electroless Plating
printed circuit boards, adhesives before – 2585P
resists, novolacs, epoxy/novolacs & montmorillonite complexes – 1008P
solder mask coatings resistance to chemicals in – 2791P

Electrolysis
chromium compounds, pretreatment by – 4286P

Electromagnetic Interference
shielding against
— 2342
—acrylonitrile/butadiene/styrene substrates – 5215
—building materials – 6837P
—coatings on metals (sprayed) on particles/resins – 8433P
—coatings, maleics/carbon black – 1159P
—conductive coatings – 1132
—conductive coatings testing – 5198
—conductive pigments, nickel-based – 3960
—conductive pigments, types/morphology – 7953
—conductive polymers – 4007
—conductive polymers on films – 9547P
—conductivity (electrical) – 3858P
—copper/coupling agents etc – 6011P
—corrosion inhibitors/pigments protection – 4438P
—iron oxide (flake, modified) – 2267P
—metal powders – 20P, 6378P
—metal powders/phosphonic acids etc – 6006P
—methods – 5217
—microspheres (hollow), magnetic/silver-coated – 3570
—sealants (conductive) – 9324
—water-bornes – 8527P

Electromagnetic Radiation
heating, curing/modelling – 8256

Electron Acceptors
thiophenes derivatives (fused ring) – 8003

Electron Beam Curing
See also radiation curing – 3814
advantages etc – 3795
chemistry/hazards etc – 5442
chemistry/substrate grafting/costs etc – 8754
combination, with thermal – 5406
equipment
—Japan – 3810
—linear accelerators – 5117
—low voltage/integrated shielding/compact – 7079
—product handling/shielding/inerting/parameters – 5106
—statistics – 5451
—statistics (Japan) – 5449
—wire ion plasma accelerators – 5444
equipment/principles/problems etc – 8757
Japan – 3794
mechanisms/initiation/additives – 6209
polyester-urethanes (unsatd), micropores – 3792
statistics (Japanese) – 3810
uses
—examples/stages – 9832
—Japan – 3797
uses (current/future) – 5451

Electron Beam-curable Coatings
abrasion resistance, aluminium oxide – 3843P

Electron Beam-curable Coatings *(continued)*
acrylic/urethanes, acrylates (polyfunctional) & – 3861P
adhesion promoters, silanes/siloxanes – 637P
fluoropolymers/titanium dioxide/accelerators – 6225P
interpenetrating networks (semi-) – 2136P
mechanical properties, pigments & – 1186
metallisation &
— 5522
—paper substrates – 5437
on release materials, curing/transfer – 3819P
photo-oxidation/yellowing – 5399
polyester acrylates – 2137P
pretreatment, corona – 316
recording materials (magnetic), copolymers (unsatd) – 3841P
release coatings
— 5419
—comparison with conventional – 2996
—silicones (unsatd) – 5402
Electron Beam-curable Compositions
See also adhesives, inks, pressure-sensitive adhesives & 'printing inks, electron beam-curable'
acrylic/urethanes (carboxylated) – 612P
antistatic coatings – 5429, 5522
colour generation on curing – 8810P
conductivity (electrical) – 2174P
electrical insulation, flame retardants, formulation – 5184
hot-melt coatings – 258P
magnetic coatings, manufacture, milling – 5452
maleimides (polyfunctional)/butadiene polymers etc – 2173P
market (European) – 5410
pastes
—conductivity (electrical) – 3857P, 3858P
—printed circuit boards repair – 3021P
phosphates (unsatd) – 4976P
polyurethanes (unsatd) – 910P
resins for, joint ventures – 693
urethanes (unsatd), from vinyl ethers – 5432
urethanes (unsatd)/polyethers products – 7814P
uses, Japan – 3797
Electron Beams
cross-linking, polyethylene/gel content determination – 9659
dosimeters
—calorimeters, & calibration services – 7074
—labels/colour changes – 5446
grafting
—by pretreatment with – 8059
—monomers on steel (coated) – 338P
—on plastics – 340P
—pre-irradiation – 7333
imaging, acetylenes (polyfunctional) – 5840P, 5841P
initiators, sensitisers/electron donors & – 4658P
paper coatings, treatment, effects – 2997
polyvinyl butyral, degradation/properties effects – 9747
pressure-sensitive adhesives/self-adhesives & – 9833
resists
— 4645, 7826P
—acetaldehyde/chloral copolymers – 7080
—acetylene polymers – 6221P
—acrylics (fluorinated) – 4630
—acrylics, developers/sensitivity – 3807
—acrylics/titanates – 7812P
—chloroacrylates – 2163P
—chloromethylstyrene/methylstyrene copolymers – 4633
—copolymers/heat resistance – 1306P
—isopropenylphenols polymers/sulphones – 3018P
—methylstyrene/chloroacrylates copolymers – 611P
—novolacs/diazoquinones – 3017P, 3825P
—orthoesters (bicyclic, unsatd) – 8011P
—phenolics/sulphone systems – 3016P
—plasma etch resistance – 8750
—polyethylene (modified) – 619P
—polymers (comb), plasma resistance – 594
—resorcinol-formaldehyde resins/silyl – 3815
—silanes (polymeric) – 5476P
—two layers, siloxanes in upper – 1307P
—vinyl ethers (fluorinated) copolymers – 4666P
sources, wire ion plasma accelerators – 5444
Electron Chemische Speziallack GmbH
mergers, with Ernst Peter – 6312, 7167
Electron Diffraction
low energy, hydrocarbons (unsatd)/metals – 5278
phosphate coatings – 4477
polymers, book chapters – 1935
Electron Emission
optically-stimulated, contaminants/thin films & – 6899
Electron Energy Loss Spectroscopy
electron microscopes (transmission) – 513
hydrocarbons (unsatd)/metals – 5278
Electron Microscopy
aggregates, image analysis – 2936
anticorrosives, zinc chromate – 7008
element-specific, polymers – 6984
interpenetrating networks – 2896
latices, freezing samples for – 2896
phosphate coatings – 4477
polyester-urethanes, staining/microdomains – 1226
polymers, morphology – 2931
techniques/polymers, book chapters – 1998
thermal wave, corrosion of steel/coated steel – 9702
transmission
—asbestos fibres, samples preparation – 3654
—imaging electron energy spectrometers – 513
—medium-voltage, equipment/features – 522
Electron Microscopy, Scanning – 1998
chromate coatings, for aluminium – 1997
coatings, alkyds, weathering & – 2694
image storage techniques – 9701
intumescent compsns – 8614
particles classification, computers control/data handling – 2867
primers, pigments – 9715
samples preparation, silver coatings & removal – 7733
steel (zinc-coated)/coatings adhesion tests & – 5269, 5274
wood (treated), preservatives – 6060
Electron Spectroscopy
Auger
—coatings/metals/depth information – 504
—corrosion inhibitors, films on surfaces – 9464
—X-ray analysis (electron-probe) simultaneous – 7657

Electron Spectroscopy for Chemical Analysis
adhesion, review – 6889
adhesives (hot-melt), surfaces/failure surfaces – 6084
chromium/iron alloys, passivation – 7667
coatings, alkyds, weathering & – 2694
depth profile information/peak shape – 9719
latices – 3682
paper coatings, review – 6070
plastics, plasma treatment/storage – 2925
polyesters/amino resins, surfaces N – 8628
polyether-urethanes – 1953
polymers, enrichment at surfaces of – 1217
polymers field – 10003
principles/polymers – 1918
Electron Spin Resonance
acrylics/oxygen, gamma-rays/radicals/diffusion – 7730
adhesives (epoxy), during curing, spin probes – 2892
hexanediol diacrylate polymers – 9662
hexanediol dimethacrylate polymers – 9662
interpenetrating networks, probes/morphology/temp – 4496
phosphate coatings, zinc phosphate/metals particles – 6942
polymers, book chapters – 1925
polymers field – 10003
weathering, polyesters, prediction – 9455
weathering & – 8416
Electron Tunnelling Microscopy
scanning, principles/uses – 9661
Electron Tunnelling Spectroscopy
inelastic, adhesion promoters/aluminium oxide – 6887
Electronic Components
adhesives, electrical insulation, microspheres – 5823P
adhesives (conductive), thixotropy – 9282P
adhesives (epoxy) – 9281P
alpha-rays &, shielding against – 9297P
antistatic coatings – 7609P
coatings
—against water – 6802
—moisture resistance etc – 4431P
—permeability (low)/moisture scavengers – 6772P
—polyamide-imides – 3589P, 5755P
—polyimides – 2772P
—polyimides (fluorinated) – 3322P
—polyimides, siloxanes groups – 2495P
—polyisocyanates (fluorinated) – 5757P
—silanes (hydrolysed) – 4451P
—siloxanes (ladder) – 1822P
—thermal shock resistance – 6846P
coatings etc, Schiff bases products – 3301P
conductive inks lines, printing – 3400P
containers for, transport/conductive coatings – 5025P
electrocoating, acrylics – 5784
electron beam-curables, conductivity (electrical) – 2174P
inks, resin acid salts/mercaptides/binders – 8298P
integrated circuits
—protection, ultraviolet-curables – 7071
—silica coatings – 479P
manufacture
—resists – 4642
—transparent coatings – 1174P
marking, lasers/temp-indicating compsns – 1709P
mercaptosilanes – 8531P
multilayer wiring structures, siloxanes layers – 1145P
photocurables
—acrylates (polyfunctional), ethers links – 3851P
—adhesion promoters – 630P
—polyamic acids/isocyanates (unsatd) – 3829P
photopolymerisables, adhesion, short circuits/pattern expansion avoid – 5486P
polyimides uses – 2447
powder coatings, epoxies – 8242P
radiation-curables, uses/companies, Japan – 3803
sealers, epoxy/novolacs – 433P, 434P, 3267P
sealers (radiation-curable)
— 3837P
—flame retardance – 3838P
—ultraviolet then curing – 3839P
thixotropic coatings, siloxanes/titanium dioxide – 454P
ultraviolet-curables
—acrylates – 3846P
—siloxanes (unsatd) – 8807P
varnishes, diamines/anhydrides etc products – 1864P
Electronic Equipment
adhesives (epoxy), films – 999P
adhesives (radiation-curable), films, shaping/half-curing – 644P
coatings
— 4212
—advantages/application/stripping etc – 1136
—epoxies, dielectric constant (low) – 4935P
coatings/sealers, epoxy/phenolics etc – 5239P
conductive coatings – 5219
conductive coatings etc, pastes – 3857P
conductive compsns, pastes – 3858P
electron beam-curables – 910P
enclosures, sealants/moisture/corrosion – 8394
housings
—flame-retardant coatings – 4391P
—radiation-curables, acrylates etc – 628P
—spraying, textured coatings – 5122
inks
—resin acid salts/binders – 8308P
—resin acid salts/rhodium mercaptides – 8297P
—resin acid salts/rosin derivatives – 8307P
photosensitive compsns, polyimides (modified) – 9898P
radiation-curables (matt) – 9852P
Electronics
polymers, uses, review – 4887
polymers (electro-active), uses – 2342
Electronics Industry
semiconductors manufacture, emissions – 5301, 5302
walls etc, antistatic coatings – 473P
Electropainting
See electrocoating entries
Electrophoresis
carboxylic acids, separation/quantification – 6920
imaging, polyamic acids/polyimides – 7073
kaolinite, modelling – 5314
micro, walls zeta potential – 8661
mobility, titanium dioxide, surface charges etc – 2919
mobility determination
—laser Doppler velocimetry – 3733
—photon correlation spectroscopy – 3747
particles (ellipsoidal), non-uniform charge, theory – 5314
pigments, stability & – 2937

Electrophoresis *(continued)*
silica – 759
titanium dioxide, in water-bornes, factors – 2911
Electrophoretic Coating
See electrocoating entries
Electrophoretic Deposition
See electrodeposition & electrocoating entries
Electrophoretic Painting
See electrocoating entries
Electrophosphating
See phosphating
Electrophotography
anthranthrones – 5610
phthalocyanine pigments (vanadyl) – 1488P
toners – 826P
Electroplating
electrocoating over, same bath compsn – 973P
wastes, iron oxide from – 7790
Electropolymerisation
aniline (substituted)
— 2455
—electrochromic films – 8506
benzene/diphenyls, factors – 4897
coating by, phenols/cross-linking/corrosion resistance – 375
conductive polymers synthesis – 9048
film-forming systems, review/by monomers – 4006
initiation process/applications, review – 3171
phenols, on zinc/galvanised – 4883
pyrroles
— 4959
—electrodes (selective) from – 1934
—presence acrylics, doping/sandwiching – 5738
pyrroles (substituted) – 6492
pyrrolidones, nickel deposition simultaneous – 8225P
quinoline (substituted) – 8122
styrene sulphide, anodes/cathodes – 7356
styrene/vinyl acetate – 5696
thiophenes
— 4121
—functional groups/polymers properties – 4124
thiophenes oligomers – 8156
thiophenes/furan oligomers – 8156
Electrostatic Coating
equipment, helical flow particles/radial gas – 6665P
from rotating shafts/raised portions above/in liquids – 6671P
Electrostatic Recording
See 'recording, electrostatic'
Electrostatic Spraying
See also spray guns
automation – 2625
central jets/coaxial diluents/surrounding air jets – 9384P
coatings (proprietary), for spraying & – 3565
cylinders (gas) – 3431
discs (rotary), adhesives application – 6668P
equipment
— 328P
—charging devices, review – 7483
hangers, suggestions/grounding – 6645
high-speed
—demonstration facilities, paint manufacturers – 3069
—equipment, charging electrodes & inner/outer casings – 3450P
—high-voltage, equipment (proprietary)/uses – 2625
metallic finishes – 1857P, 7512P, 7513P
of plastics, plants/equipment – 3437
of plastics substrates
—polyurethanes/conductive materials – 9563P
—undercoats before – 7598P
powder coatings
—charging enhancing additives – 6577P
—diagnostic kits – 7723
—equipment – 5093
—equipment (proprietary) – 7471
—mesh screens near nozzles – 1750P
—powders electrical properties – 6134
—problems/grounding – 319
powders, charging (triboelectric), equipment – 9377P
transfer efficiency, techniques (various) – 6661
water-bornes – 4275
Ellagic Acid
galloylellagic acid, quercetin derivatives – 7100P
Ellipsometry
film thickness/refractive index from – 1267
interfaces, acrylics/metals – 7729
Ellis Jones Ltd
mergers, with Horace Cory Ltd – 678
Embossed Patterns
See also decorative patterns & decorative effects
metal films/primers/adhesives/release papers – 1873P
Embryos
glycidyl ethers & – 2947
glycol ethers & – 2109
Emergency Planning & Community Right-to-Know Act 1986
US
—hazards communication means – 8712
—toxic materials, customers notification – 709
Emissions
See also dusts, effluents & stoving entries
automobiles manufacture, treatment etc – 6200
cleaning
—adsorption – 4281
—solvents/regulations – 582
containers manufacture, & reduction – 8724
control, regulations (UK), plans/EEC directives – 3922
degreasing, solvents/factors – 585
drums, exhaust hoods (annular)/air flow – 9811
electricity generation, control – 4794
finishing
—automobiles, reduction/regulations (US) – 8744
—wood/furniture, monitoring etc – 6099
formaldehyde
—board, barrier coatings testing – 4415
—coatings, factors effects – 2762
—determination, interferences – 2861
—from materials, chamber methods – 6202
—low, acrylamide copolymers (modified) – 8092
—reduction, melamine resins (proprietary) – 8191
from paints films, GC – 9710
FTIR – 9726
hazardous materials, regulations (US) plans – 9974
hazards, occupational, assessment strategies – 7758
isocyanates, levels during spraying – 8708
levels, US companies reports – 9815
methylene chloride, determination, GC – 1924
national economy damage by – 9817

Emissions *(continued)*
painting
— 4769
—regulations (Italian) – 7200
particulates, sampling in stacks – 1430
powder coatings, particles/curing/degradation/monitoring – 2105
printing, recovery/incineration – 2971
printing (gravure), control/regulations (US)/technologies – 9818
printing inks
—determination/compliance – 4225
—statistics/regulations (Swedish) – 7204
regulations (Italian)
— 582
—authorisation – 6324
regulations (UK) – 4760
regulations (US)
—'Toxic Hot Spots' – 9988
—water (drinking) protection – 3082
remote sensing, infrared spectroscopy – 9696
sealants, hazards/corrosion – 1021
semiconductors manufacture, monitoring, FTIR – 5301, 5302
solvents
— 7016
—adhesives – 8255
—containers manufacture/finishing, & reduction – 8724
—degreasing, reduction – 5884
—mixtures, analysis, FTIR – 9725
—nitrocellulose lacquers, control – 8375P
—painting hot substrates – 2944
—painting, wood – 2118
—paints/Los Angeles/regulations/plans – 8736
—printing, UK, measures implementation/local authorities – 7053
—printing/neuropathy – 7039
—recovery, permeation membranes – 3782
—reduction – 584
—reduction, carbon dioxide in spraying – 8337
—reduction, Germany (West) – 8742
—reduction, treatment methods – 5388
—scrubbing, polyethers – 4621
—workplaces mapping/presentation – 5392
solvents (chlorinated) – 4625
spraying, scrubbing – 4287P
stoving
—borosiloxanes coatings – 2750P
—borosiloxanes coatings without – 2751P
—composition – 7804
stoving ovens, paints aerosols – 9807
tetrachloroethylene, levels in plants – 6198
titanium dioxide manufacture, EEC directives – 8856
treatment
—bacteria beds – 2120
—investment – 9941
—micro-organisms – 586
—vinyl esters synthesis – 4618
volatiles (org)
—actual stoving temp v EPA methods – 580
—control, limits/USA – 8849
—determination, detectors/mobile units – 7664
—limits, regulations (US), proposals – 7201
—maintenance paints – 9968
—quantification/reduction – 4614
—regulations (US) – 7193
—regulations (US), California – 7794
—regulations (US)/painting & – 7209
water-bornes
—avoidance, binders (various) studies – 2545
—review – 7795
—testing – 7785
wood preservatives, from wood – 6204
Employment
job vacancies, advertisements Farbe Lack – 7146
paint industry, German adverts analysis – 4675
regulations (US), plant closures/mass lay-offs – 3926
Ems-Chemie AG
co-operation, with Goodyear, polyesters/powder coatings – 3061
Emulsification
See also self-emulsification
fountain solutions/inks – 7005
ionomers, polyurethanes (segmented), effects – 2445
methyl methacrylate, ultrasonics/polymerisation – 7307
printing inks/dampening solutions, dielectric properties – 6968
Emulsifiers
See also self-emulsification
anti-foaming agents, polyethers – 807P
biocides, polymerisation & – 3535P
blends
—emulsion polymerisation – 3281
—emulsion polymerisation, permeable coatings – 8445P
emulsion polymerisation, interactions between, & with persulphates – 7308
internal
—acrylates – 3989P
—for polymers for aq/solvent – 142P
—polyether acrylates – 3268P
latices &, stability – 6446
phosphates – 66P
polyamines (modified) products – 6534P
polyfunctional, bisphenols (hydrogenated)/anhydrides products – 61P
polyols (modified), acetals etc groups – 8027P
proprietary, water-bornes, converting conventional resins – 219
reactive
—epoxies modified – 1669P
—polymerisation presence – 5025P
—polymerisation presence, microgels – 938P
rosin (modified), Diels-Alder adducts – 6475P
unsaturated
—emulsion polymerisation – 9035P
—from olefin oxides/acrylic acid/alkylene oxides – 9034P
—isopropenylphenols (alkoxylated) – 65P
—succinates (substituted) – 9039P
—water-bornes – 8200
urethanes, water-bornes, polyisocyanates & – 8209P
water-bornes, film formation/emulsifiers fate – 4535
water-bornes without – 6551P
Emulsifiers, Polymeric
amides (unsatd)/fluorocarbons (unsatd) copolymers – 1619P
polyesters, polymerisation presence – 4037
polyether-urethanes (modified), by fatty – 7347P
polyvinyl alcohol, grafting to/FTIR – 6904

Emulsifiers, Polymeric *(continued)*
reactive – 250P, 251P
unsaturated, dicyclopentadiene polymers/pendent unsatd – 4020P
Emulsion Paints
acrylics – 8198
adhesion (wet), monomers for – 2830
application, DIY, methods – 2536
biocides
—allenes, thiocyanates groups – 2739P
—dithiolones/thiocyanates/isothiazolinones – 1814P, 2738P
biodegradation, fungi from – 3525
board (cementitious), acrylics – 2789P
cans for, corrosion inhibitors – 2682
coalescing agents
—cyclohexyl compounds – 5783
—isodecyl benzoate – 7272
coalescing agents/thickeners &, properties – 2541
decorative effects, ripple, coatings/rollers – 5858
dicyclopentadiene polymers (maleinised) – 4079P
dielectric properties, bulk/films/film formation – 8668
dilutable, by water/non-polar – 6570P
dispersants, co-dispersants, aminoalcohols as – 1508
epoxies/acrylics etc – 1674P
ethylene/vinyl acetate copolymers, of vinyl acetate – 5730P
exterior
—defects, descriptions – 8897
—for wood, tropical conditions – 2652
film-forming temp/polymers/formulations etc – 6548
for concrete, repair with mortars & – 2764
for plywood, grooves bottoms painting – 239P
for wood, permeability – 9755
formulation, regression – 2809
frost resistance, improvement, review – 7386
gloss
—acrylics (proprietary)/formulation – 8206
—acrylics, rheology, factors – 2841
—components/manufacture – 5781
—titanium dioxide/weathering – 8386
hiding power, titanium dioxide/extenders/porosity – 7706
hiding power (wet), determination/titanium dioxide – 2810
interior, perfumes – 4181P
latices, polymers (soluble) & – 2558P
latices (lobed), rheology/brushing/formulation – 2548
manufacture – 948
matt
—clays (calcined), & comparison with others – 2257
—PVC/formulation/pigments/fillers – 7725
—titanium dioxide, aluminium oxide (hydrated) effects – 2265
particle size, fine – 5024P
particles (core/shell), siloxanes/emulsion polymers – 1542P, 1543P
pigments (encapsulated) – 2329
proprietary, 'Which?' surveys – 2536
rheology
—pigments/thickeners/latices – 8581
—rheometers (controlled stress) – 494
solid
—litigation/licensing, UK – 5543
—proprietary, 'Which?' surveys – 2536
spraying (dry fog), overspray powder formation – 5016P
statistics (Irish) – 8822
styrene/butadiene copolymers, pigments etc/water-glass – 8224P
sulphur dioxide &, acid-solubles loss by – 4326
sulphur dioxide exposure, carbonates loss – 9723
thickeners
—attapulgite/cellulose derivatives – 4871
—enzymes/viscosity loss/control – 2720
—types/functions/incorporation – 2299
—viscoelasticity/application behaviour – 2307
thickeners (proprietary), lists/suppliers – 2296
thixotropic agents, titanium chelates – 5658P, 5659P
tinting, factors/oil absorption/porosity – 7706
vinyl esters (branched) copolymers – 2406
viscosity
—extensional, dynamic uniaxial – 6881
—loss, enzymes/products etc – 7388
wastes, domestic, recycling public use – 7793
water resistance – 8224P
Emulsion Polymerisation
acrylates
—presence allylic hydrogen – 5826P
—presence colloids (protective) – 5725P
acrylic monomers, presence carboxymethylcellulose, polymers/coatings – 2417
acrylonitrile/butyl acrylate, hydrazyl effects – 6432
aromatics, presence copolymers (carboxylated) – 5689P
butadiene, initiators/rosin derivatives, kinetics etc – 6439
butylstyrenes – 3185
chain transfer agents
—addition start/during – 9072
—MW etc effects – 2844
colloids (protective), surface-active – 4074P, 4075P
condensation polymerisation, factors/use, review – 3176
continuous processes
—reactors/modelling – 2352
—reactors/modelling/experiments – 2353
—vinyl acetate, MWD models/GPC – 9079
copolymerisation
—continuous processes, modelling – 3200
—continuous processes, modelling/experiments – 4023
—conversion monitoring, head-space – 2367
—kinetics/modelling/radicals types – 4917
—kinetics/structure/theory – 829
—kinetics/theory – 7296
—kinetics/theory/pseudo-homopolymerisation – 8063
—modelling – 8061
—modelling/pseudo-homopolymer approach – 1548
—presence homopolymers – 5715
—presence polybutadiene particles – 4898
—radicals diffusion from particles – 9054
—reactors/modelling – 1547
—surfactants (non-ionic), structure factors – 4033
dienes (conjugated), two-stage – 8495P
dienes (conjugated) etc, surfactants part way through – 5982P
dispersants (polymeric)
—acrylics (fluorinated) – 7393P
—carbonyl groups, reactive in coatings – 8056P

Emulsion Polymerisation *(continued)*
—fluoropolymers (carboxylated) – 7392P
emulsifier-free
—nucleation, modelling – 5669
—presence silica, shell thicknesses – 5664
—styrene, nucleation etc, modelling – 5686
—vinyl acetate/methyl methacrylate/acrylamide – 5715
emulsifiers
—bisphenols (hydrogenated)/anhydrides – 61P
—interactions between, & with persulphates – 7308
—microgels manufacture – 817
—rosin Diels-Alder adducts – 6475P
emulsifiers (polymeric, unsatd) – 4020P
emulsifiers (polymeric)
— 4037
—grafting to/FTIR – 6904
emulsifiers (unsatd) – 65P, 9034P, 9035P, 9039P
emulsifiers blends – 3281
initiators
—azo compounds, amidine groups – 828P
—types/kinetics/mercaptans – 834
initiators (surface-active) – 4888
inverse
—polymers insoluble in monomers – 3196P
—water at least nineteen percent – 3196P
kinetics/mechanisms/reaction engineering – 5666
latices (core/shell), acrylics (fluorinated, carboxylated) on cores – 9067P
methyl methacrylate
—around pigments/surfactants – 2329
—kinetics/autoacceleration – 5713
—presence oxides, kinetics/encapsulation – 4906
modelling – 8039
multistage, acrylics, carboxylated second etc stages – 4174P
MWD, theory – 79
NADs manufacture
—surfactants treatment/water exchange – 9211P
—transfer & initiators etc removal – 9210P
nucleation, of latices particles, mechanisms – 9049
octadecyl methacrylate – 3185
particle formation locus, monomers (partially water-soluble) – 116
particle growth/MWD/size, review – 3181
particle size
— 2355
—determination in reactors, on-line – 6138
particles formation, kinetics, models – 822
particles numbers, theory/simulation/experiments – 4016
partitioning
—inhibitors effects – 6442
—initiators/monomers transfer not inhibitors – 6441
photopolymerisation – 7078
polyesters (unsatd)/divinylbenzene, emulsifiers (polymeric) – 4037
polyesters (unsatd)/styrene, emulsifiers (polymeric) – 4037
presence emulsifiers blends, permeable coatings – 8445P
presence epoxies, products as seeds – 3197P
presence persulphates/surfactants/sulphates – 1544P
presence seeds (high MW)/film-forming aids – 4891P
reactors
—modelling – 2352
—wall build-up control – 5995P
reactors (flow), modelling – 8039
seeded
—kinetics – 819
—vinyl acetate, new particles/particle size etc – 3230
siloxanes, silanol/aminoxy groups – 4982P
siloxanes (cyclic)/silanes, microemulsions by – 8169P
solubilisation/phase ratio – 3168
styrene
—chain transfer agents – 90
—chain transfer agents/radical entry particles – 1551
—electrolytes effects – 8067
—in gel-like emulsions – 93
styrene/acrylic acid, electrolytes effects – 8067
styrene/methyl acrylate, composition distribution – 1567
styrene/sulphur dioxide – 9063
surfactant-free
—presence ionogenic monomers – 104
—styrene, comonomers stabilisers – 8048
—vinyl acetate, nucleation/growth – 6450
surfactants
—role/selection/plants – 796
—sulphonates, steric effects – 5661
surfactants (polymeric)
—block copolymers – 4869
—graft copolymers, structure etc – 3183
surfactants (unsatd) – 2310P, 4888, 9037P, 9038P
theory, radicals diffusion from particles – 9054
two-stage, core/shell & interpenetrating – 6435
vinyl acetate
— 6450
—automation (semi), safe/optimum – 8093
—grafting on colloids (protective) – 8078
—inhibition periods/pressure – 117
—presence polyvinyl alcohol/hydroxyl – 8109P
vinyl acetate/butyl acrylate – 3222
vinyl chloride, presence linoleic – 5731
vinyl esters, colloids (protective) – 5726P
water-in-oil
— 5666
—vinyllactams etc, surfactants blends – 196P

Emulsion Polymers
– 5666
copolymers, composition by TLC, problems – 6107
cross-linking, zirconium compounds/properties – 8201
emulsion paints (gloss) – 5781
modified, particles, graft copolymers (metal-containing) – 4939P
paper coatings – 6799P
particle size, large, synthesis – 4891P
synthesis
—companies (US), modernisation – 7882
—polymers/absorbed monomers/additives – 5672P
treatment, ion-exchange resins in – 4184P

Emulsions
See also latices, microemulsions & miniemulsions
acrylics
— 8198
—carboxylated monomers (difunctional) – 1590P
—manufacture, plants, Japan – 3879
—manufacturers (US) acquisition – 2203

Emulsions *(continued)*
acrylics (carboxylated), polydispersity/two-plus Tgs – 3351P
alkyds
— 4191P
—factors/HLB/surfactants – 220
asphalts, asphalts/polyols/surfactants mixtures – 8172P
breaking
—agents – 3156P
—polymers/ammonium groups – 1509P
coatings, photopolymerisables etc & – 5480P
ethylene/vinyl acetate copolymers (hydrolysed) – 2560P
ethylene/vinyl chloride copolymers (hydroxylated), stabilisers/uses – 6484P
isocyanates, emulsifiers & – 7347P
isocyanates (blocked) prepolymers/curing agents – 9168P
manufacture
—equipment, cavitation devices – 2614
—pumps (diaphragm) – 8321
non-aqueous, polyamic acids, electrocoating – 942
particle size distribution, light scattering – 4548
polyether-urethanes, ionomers – 2446
polymers, aminimides groups/fluoroalkyl/amino – 9501P
polyurethanes (cross-linked) – 5789P
polyvinyl acetate, properties/colloids (protective), surfactants effects – 8086
rheology, pH/temp – 7637
silanes, polymerisation, self-crosslinkables from – 5795P
siloxanes – 4982P
stability, studies aq films in oils, mass transfer – 3726
surfactants, particle size/anemometry/zeta potential etc – 1242
thermodynamics – 7716
vinyl acetate copolymers, acrylamide (substituted) & – 6550P

Emulsions, Oil-in-Water
asphalts – 4192P
epoxies/acrylics etc – 1674P
particle size, profiles, ultrasonics – 2910
particle size distribution – 4548
phenolics, manufacture – 3275P
stability, demulsification rate/zeta potential – 2905
tackifiers, via melts/emulsions inversion – 9029P

Emulsions, Water-in-Oil
particle size distribution – 4548
stability, dielectric spectroscopy – 6999

Enamines
amides, of unsatd acids, synthesis/uses – 8022P
cyano groups, polymers with units of – 5745

Encapsulation
See also microcapsules & microencapsulation
chromates – 2683
dyes, temp-indicating compsns – 4441P
lead compounds – 5390
light-emitting diodes, ultraviolet-curables – 5431
phosphorus (red) – 6784
pigments
—polymerisation adsorbed initiators – 8042
—temp-indicating materials, conditions/size etc – 1462
pigments (metallic) – 2266P
polymers, by polymers, air flow/revolving pins/impact – 3173
silica, emulsion polymerisation presence – 5664
titanium dioxide, by polymerisation presence – 2329, 4906
zinc dust – 2683

End Groups
from initiators, cinnamic comonomer effects – 9074
methoxystyrene copolymers, benzoyl peroxide & – 3221
methylstyrene (alpha-) copolymers – 8058
polymethyl methacrylate, benzoyl peroxide, diphenylpropenes effects – 5694
Raman spectroscopy (Fourier transform) – 8616

Endomethylenetetrahydrophthalimide
epoxies/amines & – 9118P
groups, polyimides (aromatic) – 2474P
thermosetting resins – 892

Energy
generation, emissions, control – 4794
geothermal, corrosion/bacteria (sulphate-reducing) – 2719
industries associated with, anticorrosives – 1774
management, control systems – 9967
mills (sand, horizontal), consumption – 3417
saving
—factories/insulation (thermal) – 7911
—fatty acids distillation – 3134
—ventilation systems – 7759

Engelhard Corp
kaolin, capacity increases etc – 3073

Engines
aircraft, temperature-indicating paints – 4446P
coatings, manufacturers (German) – 2212

English China Clays PLC
acquisitions by, Kaomin NL reserves/facilities – 3054
divestments, Watts Blake Bearne shares – 6294

Ensign Bickford Optics Co
joint ventures, with American Glass Research – 5538

Environment
abrasives, for blasting – 5883
chemicals, effects, literature reviews index – 5360, 9772
coatings for buildings – 453
data, OECD compendia – 8734
dithiocarbamates – 5383
lead, ecotoxicology – 9798
marine coatings, problems – 2716
monitoring, sensors, micro-organisms use for – 4519
paint industry (German) & – 668
paint manufacturers (German, East) & – 6322
printing inks, developments – 7428
protection
—chemicals manufacturers (UK) – 9941
—raw materials/inks costs increases – 5493
shipyards, painting/controls impact/problems – 8727
solvents – 7016
systems with acceptability to
—adhesives/trichloroethane – 9006
—aerospace – 1127, 1128, 1131
—aerospace/compliance systems – 9576
—aircraft/compliance systems – 9572
—coatings – 584, 3811
—coatings, statistics (German) – 4684
—epoxies – 976
—linings, swimming pools – 9664
—move towards/reasons – 8184

Environment *(continued)*
—paint industry (US) – 2511
—painting, automobiles, Germany – 2629
—paints, types/principles – 9194
—ships (naval) – 5134
—statistics (German) – 8742
—water-bornes, problems – 4172
titanium dioxide manufacture – 2201
vanadium – 5384
wood preservatives – 415, 2721
Environmental Legislation
See legislation (environmental)
Environmental Policy
EEC – 5386
Europe – 6200
Enzymes
antifoulings – 1815P
bagasse (treated) & – 4143
coatings
—against odours – 8546P
—wood processing wastes & in – 1282P
corrosion inhibitors, in-can/applied coatings – 2682
fungi
—lignin modification – 813
—thickeners degradation – 3525
fungi (immobilised), wastes treatment – 8729
immobilised, analysis (flow) using – 3689
thickeners &, viscosity loss/control – 2720
Eosin
photoinitiators – 9838
Epichlorohydrin
carcinogenicity
— 6175
—review – 9762
products, with amines/sulphites, printability additives – 3557P
sensitisation – 4606
stabilisers, for trichloroethane – 1502P
substituted, from acetone – 4857
synthesis
—joint ventures, Japan – 6311
—manufacturers (US) – 7903
Epidemiology
acrylonitrile – 7012
allergies, chemical industry – 5351
artists – 2959
automobiles repair – 5363
cadmium – 564
cohort selection, cross-sectional/inception – 4608
cutting fluids, cancers etc – 1277
dimethylformamide, with/without acrylonitrile – 2066
formaldehyde
— 2953
—exposure estimation retrospectively – 4604
lungs, methacholine inhalation tests – 2077
methyl methacrylate – 4574
nickel – 4578
painters
— 4584
—Switzerland – 6189
painters/paint manufacture, cancers, review – 9797
vinyl chloride
— 554
—polymerisation plants – 8722
—review – 558
Epiglass Paints
acquisition, by International Paint – 2207
Epilepsy
solvents – 2091
Episulphides
electropolymerisation, anodes/cathodes – 7356
groups
—epoxies (modified), curing – 917
—polymers, grafting on carbon – 4842P
polymerisation (anionic)
— 2383
—copolymerisation – 2514
—stereochemistry – 2411
polymerisation (cationic) – 2488
unsaturated, photo-crosslinking, thiobenzoquinones – 2132
Epoxy Adhesives
adhesion etc, polycarbonates from triptycenes – 8275P
adhesion promoters – 5120
ageing, monitoring/fillers involvement, viscosity etc – 5044
automobiles, mica/carbon black/rubber – 5827P
conductive compsns
—epoxies/silver/diluents (reactive) – 5818P
—particles (metal-coated) – 2578P
conductivity (electrical), maleimides (polyfunctional) – 1699P
curing
—ESR during, spin probes – 2892
—reactions – 841
—reactions modelling – 4210
curing accelerators
—imidazoles (thioformyl) – 2436P
—salicylic allyl ethers – 1595P
curing agents
—carbonates (cyclic)/amines products – 9086
—epoxy phosphates – 4066P
—hydrazides & epoxies products – 9281P
—powders (coated) of agents – 3271P
dicyandiamide/guanidine compounds/nitrile rubber – 3393P
dicyandiamide/ureas (fluorinated)/guanidine derivatives – 8283P
epoxies
—acrylates/ureides/piperazine – 1001P
—epoxy/urethanes & pigments – 6601P
—from diphenylolethanes – 871P
—from naphthols/formaldehyde – 860P
epoxies (advanced) – 9095P
epoxies (cycloaliphatic) – 4905
epoxies/cyclopolymerisation of epoxies – 876P
epoxies/unsatd epoxy compounds – 644P
epoxy phosphinates – 859P
epoxy/novolacs – 6140
fast-curing – 3372, 7421
fillers (modified), by epoxy silanes/phenols – 3264P
films
—epoxies blends/fluorenes – 999P
—epoxies blends/nitrile rubber/guanidine compounds – 3394P
—moisture in uncured, mechanical properties – 3623
flexibilisers – 4087P
for aluminium, pretreatment/RH/adhesion/durability – 2822
for galvanised steel, adhesion/water exposure – 373

Epoxy Adhesives *(continued)*
for plastics
—fast-curing compsns/no pretreatment – 3372
—pretreatment by permanganates – 9349
for polyethylene, failure surfaces, SIMS – 2847
for tapes/sheets, room temp bonding – 7426P
for titanium alloys, adhesion promoters – 7636
graft copolymers, from polyolefins – 1589P
heterocyclics, metal ions migration control – 2743P
mechanical properties, cross-linking/Tg & – 1190
mercaptans – 1584P
mercaptocarboxylics – 1583P
modified
—glycidyl-substituted bisamides – 5824P
—nitrile rubber (amino-functional)/viscosity – 5048
—polysulphides – 8160
moisture &, before curing – 4542
moisture resistance, phenolics (silicone-modified) – 1593P
niobium/niobium compounds – 8315P
one-component
—silicones (modified)/diamines (blocked) – 5057P
—uses examples – 4213
particles in, silicones – 3596P
raised pavement marker installations, standards – 2235
silanes (polymeric)/metalloxanes – 1596P
silica (fumed), hydrophobicity – 9025
stability (storage) – 2581P
structural
— 1694P
—substrates (oil-contaminated), epoxies (modified) – 2588P
substrates (oily), tolerance – 3393P
thermosetting
—corrosion resistance – 4223P
—curing agents/latent accelerators – 2581P
—polymers dispersions in – 6464P
—polyols/imidazoles – 6595P
—stability (storage), acrylics & – 4063P
toughened
— 844
—for aluminium – 9259P
—nitrile rubber (carboxylated)/diamines products – 9255
—polysulphides (epoxy-terminated) – 2403
—uses/properties – 989
two-component
—acrylics – 5047
—developments/properties – 5047
—epoxies/acrylates/nitrile rubber – 5825P
—for linings of ceramics – 4213
—for plastics (reinforced) – 7421
—polyamines/polyphenols products – 1694P
water resistance, adhesion promoters/bond failure tests – 267
water-borne
—phosphotungstates/tensile properties – 5055P
—polymers/isocyanates & – 1697P
—silanes/silicones/curing agents separate – 5056P
wires (coated) bonding to boards – 8271P
Epoxy Compositions
adhesion, pretreatment/curing conditions, polysulphides & – 8605
anthraquinone (substituted) – 7086P, 7087P
B-stageable, anhydrides (unsatd) cyclopolymerisation – 876P
chelates, organo-silicons/acetoacetyl etc groups – 5656P
coatings, acrylates (polyfunctional)/organo-silicons – 947P
curing accelerators (latent), epoxy/amine adducts – 9121P
eczema – 5343
epoxies/polyfunctional glycidyl – 8100P
fillers (modified), by epoxy silanes/phenols – 3264P
flexibilisers, polymers/glycidyl ethers – 4087P
graft copolymers, from polyolefins – 1589P
health & safety – 9773
heat-curables
—curing agents (latent) – 9096P
—maleimides (polyfunctional) etc – 4373P
heterocyclics in, metal ions migration control – 2743P
moisture resistance, phenolics (silicone-modified) – 1593P
niobium/niobium compounds – 8315P
one-component
—dicarboxylic acids/ureas – 1570P
—polyols/imidazoles – 1586P
particles in, silicones – 3596P
pastes, cooling systems, protection/repair – 2689
phenols (halogenated) – 3253P
polycarboxylic acids/carboxylic acids – 148P
polyether-amines/unsatd imides – 9118P
popping, avoidance, monoacids for – 874P
pretreatment, adhesion promoters – 5120
stability (storage) – 8100P
Epoxy Compounds
coatings
—acrylics/polyolefins (chlorinated) & – 4410P
—polymers (carboxylated)/polymers (amino) & – 8185P
—polymers/silyl groups &, pot-life – 5001P
curing agents (mixed)
— 9876P
—monomers & – 9877P
cycloaliphatic, photopolymerisables – 7828P
diluents (reactive), water-bornes – 8547P
fluorinated, polymers, surfaces modifiers – 4248P
from polyester polyols – 4083P
intumescent Coatings – 5970P
MS – 3661
NMR (pulsed), amines & – 8630
paper coatings – 442P
photopolymerisation, phosphine oxides/iodonium – 5456
polyether-amines from – 9139P
polyfunctional, coatings, acrylics/polyolefins & – 4443P
polymerisables, dihydropyran esters & – 9899P
polymerisation, presence onium – 8084
polymerisation (anionic)
— 2383
—copolymerisation – 2514
—stereochemistry – 2411
polymerisation (cationic) – 2399
polymers (hydroxylic), from carboxylic acids (unsatd) & – 5728P
products
—curables, low viscosity – 3273P
—with active H, adhesives – 9281P
—with lactones – 1173P
—with polyimides (functional) – 8146P
radiation curing – 3002

Epoxy Compounds *(continued)*
reaction
—with olefins, presence titanium(III) – 7995
—with vinyl alcohol copolymers (modified) – 8079
substituted, products with phenols – 858P
synthesis
—epoxidation/catalysts – 3141P
—from alkenes, catalysts – 8000
unsaturated
—photocurables – 3854P
—polyfunctionals by ring opening – 5643P
Epoxy Esters
anticorrosives (water-borne), silica & – 8432P
coatings, polycaprolactone polyols/isocyanates (blocked) & – 3344P
from fatty acids/dimer acids/castor oil ethers – 3259P
hydroxylated
— 2402
—heat-curables, isocyanates etc & – 4161P
—products with lactones – 7611P
of fatty acids, copolymers, dispersants (polymeric) – 4190P
printing inks, for metals – 4233P
synthesis, dimer acids, residual iminium as catalysts – 149P
unsaturated
—half-esters, phenylene sulphides, solder mask coatings – 9882P
—photocurables, aluminosilicates & – 2150P
—photoresists – 6240P
—products with acrylates/phenols/compounds – 4070P
—radiation-curables – 8768P
—radiation-curables, epoxies (ammonium) & – 5463P
—synthesis presence catalysts/monomers – 7322P
ureide groups/isocyanates groups (blocked) – 5032P
zinc dust paints – 1777
Epoxy Groups
acrylamide (substituted), monomers/curing agents & – 3586P
acrylics, adhesives, diazonium salts & – 3848P
acrylics (branched), high-solids coatings – 3342P
acrylics (fluorinated), products with carboxylated – 1313P
determination
— 516
—in epoxies – 8895
diene polymers – 3205
formation
—catalysts – 7999
—catalysts, review – 7258
melamine resins, high-performance coatings – 1608
organo-copper compounds, synthesis/epoxy reactions – 7997
polyisoprene (hydrogenated, partially), hydroxyl groups & – 9111P
polymers
—coatings, popping avoidance, monoacids for – 874P
—grafting on carbon black – 4842P
—heat-curables, anhydrides polymers & – 8544P
—polymerisation presence, graft copolymers by – 9068P
products, with isocyanates, oxazolidone groups from – 2454
reactions, with surfaces – 4048
synthesis, epoxidation catalysts – 9097P, 9098P
terminal
—isoprene polymers – 8106P
—isoprene polymers (hydrogenated) – 8107P
vinyl acetate copolymers, epoxies & – 2577P
vinyl alcohol copolymers
—amines &, water resistance – 4926P
—paper coatings – 5202P
vinyl chloride/vinyl ether copolymers, powder coatings – 9250P
Epoxy Oligomers
MWD, TLC – 7740
Epoxy Resins
See also coal tar/epoxy
ablative coatings
— 6848P
—microspheres (hollow) etc & – 9634P
—microspheres/cork & – 1884P
adducts, with amines/hydroxyl/thio/sulphonamides – 878P
adhesion, to steel, adhesion promoters – 6039
adhesive tapes, glycol ether acrylates etc & – 2177P
adhesives
—acrylics/products of bisimides – 8287P
—polyvinyl butyral/epoxies & – 3383P
adhesives (conductive) – 6584
advanced
—diols glycidyl ethers/phenols glycidyl ethers/phenols – 9095P
—electrocoating (cathodic) – 8213P
—from epoxies blends, modification by amines – 9103P
—modification, functionality increases – 4068P
—modified by phosphoric compounds – 8102P
—powder coatings – 9104P
—presence phosphonium/water – 7330P
—synthesis from triphenols – 130P
—synthesis, catalysts – 6463P
aliphatic, aromatic modified, compliance coatings – 2392
analysis, review – 516
analysis/characterisation, review – 511
anticorrosive primers – 1759
anticorrosives
—bitumens/mica & – 2710P
—developments – 1771
—exhausts – 6746P
—food industry – 8422
—for steel (metal-coated) – 8540P
—heat resistance – 5165P
—heat resistance/emissivity – 1080P
—particles & – 1086P
—phosphomolybdates & – 3495P
—pipes etc/hot liquid precuring – 6749P
—plants (chemical) – 1775
—silica & – 1085P
—silica &, forming/electrocoating over – 8441P
—tanks (petrol) – 8435P
—white tar/stainless steel flakes & – 4342P
—zinc phosphate (modified) & – 749
—zinc powders/nickel powders – 8436P
anticorrosives (water-borne) – 354
antifoulings, polymers (water-soluble) etc & – 6762P
bismaleimides & boron trifluoride complexes & – 4411P
blends, products with monofunctionals – 3254P
books, synthesis/curing/properties/hazards – 737

Epoxy Resins *(continued)*
branched, MWD/gelation/GPC/scaling – 6114
cans coatings, amino resins & – 470P
carcinogenicity, studies – 569
chemistry/curing agents/modification – 9085
coatings
—advancement (in situ)/low volatiles – 8095
—bismaleimides prepolymers & – 3583P
—cavitation resistance – 5245P
—coatings before, orthoesters – 1173P
—containers closures – 9575
—developments – 100
—film thickness determination – 6985
—for concrete (wet), adhesion – 4422P
—for glass fibres – 2913
—for steel (metal-coated), isocyanates etc & – 6752P
—for steel (zinc-coated) – 1803P, 8440P
—FTIR (reflection/absorption), band intensity – 2879
—fungi &, colonisation – 3530
—humidity/ultraviolet/adhesion loss – 3469
—hydroxylics &, pot-life/surface drying – 3470
—interfaces with substrates – 503
—melamine &, thermal analysis/mechanical analysis – 2908
—melamine content – 2908
—mercaptans &, pipes – 8541P
—nuclear installations – 361
—over zinc dust paints – 1769
—over zinc/silicate, cohesion/primers curing – 6735
—pipes (water), curing by hot liquids – 7617P
—pipes interiors – 6669P, 9496P
—pipes interiors, application in situ – 9350
—rebars, bending/damage/corrosion – 9479
—rebars, corrosion/modelling – 9461
—rebars, mechanical properties/corrosion resistance – 7551
—rebars, pretreatment – 9387P
—repair painting with – 4452P
—siloxanes, phase separation/evaporation rate – 9693
—spraying, aerosols in, epoxy groups contents – 9688
—temp (low) – 8555P
—thermal shock resistance – 6846P
—types/chemistry/uses/statistics – 119
—vinylidene chloride polymers & – 155P
coatings (two-component), diluents (proprietary) – 2290
coatings etc, semiconductors – 2612P
compatibility
—with polyimides – 4970P
—with polyimides (aromatic) – 909P
corrosion resistance, electrochemical measurements – 5923
cracks repair using
— 282
—concrete (reinforced) – 2607
cured
—by amines, GPC/MWD – 1231
—by amines, ring alkylation/Tg/mechanical properties – 2408
—by amines, structure/elasticity – 3629
—by diamines, pyrolysis/MS – 524
—cross-linking density, DSC/Tg/ageing/stresses relaxation – 1899
—cross-linking reversible cleavage – 4919
—modified by cured particles before curing – 2409
—partially, dielectric properties – 1239
—phase separation – 3652
—solubility parameters, calculation/experiment – 7705
—solution properties – 7748
—Tg, determination/prediction – 3652
—water &, absorption/diffusion – 3711
curing accelerators for
—acetals (cyclic)/ammonium – 855P
—amines/dihydroxybenzoic products – 8116P
—DSC – 7002
—fluoborates/fluorophosphates – 1573P
—heterocyclics thiocyanates – 122P
—imidazoles (thioformyl) – 2436P
—magnesium perchlorate – 7002
—phosphiniminium – 149P
—piperazine/triethanolamine/triamines – 4946P
—salicylic allyl ethers – 1595P
—types – 114
curing agents, for polymers (carboxylated) – 1683P
curing agents (latent)
—cyanoguanidines – 9096P
—guanidine oligomers/cyano groups – 8101P
—isocyanates (blocked) – 4073P
—isocyanates/amines/phenols – 3248P
—phthalamides powders – 207
curing agents for
—aldehyde resins, deformation & – 3600P
—allergies/asthma – 7033
—allylaminocaprolactams – 51P
—amine-amides – 4088P
—amine-imides/thermal stability – 849
—amines/toxicity – 2099
—aminimides – 106
—carbonates (cyclic)/amines products – 9086
—diamines, (thio)ether/ketone/sulphone groups – 3245P
—dicyandiamide/triazines/epoxy compounds – 2430P
—epoxy phosphates – 4066P
—epoxy siloxanes adducts – 3270P
—epoxy/amine adducts – 879P
—epoxy/phenolics, stability (storage) – 4942P
—fluorocarbons (functional) – 4948P
—fluoropolymers substrates &, interactions – 7419
—glycidyl compounds/amines adducts – 4065P
—heterocyclics (tricyclic) – 131P
—hexahydrotriazines synthesis – 1497P
—hydroxystyrene polymers – 1581P
—imidazole trimellitates – 1825P
—iron complexes – 4890P
—ketimines (modified) – 7318
—low temp/DSC screening – 7305
—mercaptans on oxides – 7590P
—mercaptans/properties/uses etc – 842
—microcapsules containing agents – 7310
—minus four/plus ten deg C – 4065P
—miscibility – 2430P
—naphthylmethylsulphonium – 881P
—novolacs (fluorinated) – 3321P
—phenolic systems – 877P
—phenols (halogenated)/phenols – 8103P
—phthalic anhydride (substituted) – 8028P
—polyamines (modified) by eg thiourea – 4440P
—polyamines/active CH esters products – 4077P
—polyamines/blocked isocyanates products – 4933P

Epoxy Resins *(continued)*
—polyamines/polyphenols salts in adducts – 1694P
—polyester-amines/carboxylics etc products – 7332P
—polyetheramine-amides – 7353P
—powders, stability (storage) – 3271P
—products, flexibility – 6443
—review – 113
—silicon compounds/basic nitrogen – 3500P
—substrates (wet)/underwater – 6836P
—succinic anhydride (alkenyl) – 4863P
—toxicity – 550
—types – 114, 9085
curing of
— 3231
—acoustic emissions/temp/stresses – 9730
—amines (hindered) & boron trifluoride complexes – 1577P
—amines, contaminants effects – 4052
—amines, stoichiometry/kinetics/properties – 2416
—amines/catalysts – 7317
—amines/functionality/stoichiometric imbalance – 4904
—aminimides/fluorescence probes – 8081
—boron trifluoride/isocyanates, faster – 6460P
—chemistry/effects – 4013
—cure rate reproducibility additives – 9120P
—curing agents/spiro, less stresses – 6448
—equations/simulation, etherification side reactions – 851
—flexibilisers/curing agents (latent) – 8077
—formulation optimisation/temp – 7312
—groups reactivities/nucleophilicities – 2390
—hexahydrophthalic anhydride/studies – 5717
—imidazoles/etherification reactions/Tg – 4045
—kinetics/components ratio – 6456
—kinetics/HPLC/accelerators/mechanisms – 6946
—mechanisms/DSC – 4543
—mechanisms/properties/model systems – 841
—microwaves – 5450
—modelling/intermediates, MS – 6081
—monitoring – 6977
—monitoring, dielectric properties – 2014
—monitoring, methods comparison – 5311
—monitoring/Tg – 7007
—monitoring/ultrasonics – 6118
—polyimines/amine thiocyanates – 1574P
—presence orthocarbonates, shrinkage reduction – 4925P
—presence polyether-sulphones, morphology – 7319
—reactions/nucleophilicity/model reactions – 4210
—rheology during, equations/modelling – 5266
—room temp systems – 4154
—surface tension/viscosity during – 535
—torsional braid analysis – 8590
—viscoelasticity during – 6036
—viscosity during/percolation theory – 4918
—viscosity/dielectric properties during – 6988
—viscosity/dielectric properties/Tg correlation – 6977
cycloaliphatic
—adhesives/coatings – 4905
—fast-curing coatings, acrylates & – 6757P
—flexibilisers, polyols as, curing/properties – 2391
—ultraviolet-curables, modifiers, viscosity increase – 9837
dermatitis (contact), fibreglass manufacture – 4586
dibenzylideneacetone compounds, photo-crosslinking – 5281
dielectric properties – 7001
diluents (reactive)/modifiers for, review – 113
dispersions (aq)
—carboxylated compounds & – 4183P
—dyes in particles – 9304P
—from polyurethane-ureas/non-dispersible epoxies – 5026P, 8222P
dispersions in, by polymerisation (in situ) – 6464P
electrochemical measurements – 9442, 9443
electrocoating, non-ionics &, coatings over – 8187P, 8188P
electrocoating (cathodic)
—basecoat/clear over – 9490P
—film thickness control – 8212P
—isocyanates (blocked) & – 8211P
—ketimines/mercaptan groups & – 229P
—powder coatings/water-bornes on – 5235P
—topcoats yellowing avoidance – 225P
electrocoating (wet-on-wet), on electrocoating – 5020P
emulsions
—acrylics & – 1674P
—concrete modified by – 2608
—monomers/preformed epoxies – 9052
encapsulation with, coatings before – 1173P
epoxy groups in, determination – 8895
fast-curing compsns
—acetals (cyclic)/polyamines products – 3247P
—mercaptocarboxylics & – 1583P
flame retardance, glycidyl ethers (halogenated) & – 3548
flexibility etc
—from polymerisation presence epoxy – 4941P
—hydroxycarboxylics/epichlorohydrin products – 4940P
flexible compounds – 5729P
fluorenes derivatives – 870P
fluorinated
—adhesion/chemical resistance – 123P
—blends with epoxies – 124P
—from diphenylmethane (fluorinated) – 3322P
—perfluoroalkylene/perfluoropolyethers blocks – 124P
fluoropolymers/polymers (basic) etc & – 1601P
for powder coatings, chemistry/synthesis/modification – 8083
formulation, lignin derivatives adducts etc & – 1564
from aminonaphthols – 3261P
from bis(diphenylolmethyl)benzenes – 136P
from bisphenol A, cycloaliphatic on methylene – 2423P
from bisphenols (t-alkyl substituted) – 4935P
from dihydrophenanthrenes – 2433P
from diphenylolethanes – 871P
from hydroxystyrene polymers – 1581P
from naphthols/formaldehyde products – 860P
from novolacs (four-nuclei), structure/viscoelasticity – 9643
from spiro compounds – 2295P
from spirobiindane compounds – 872P
fusion-bonded coatings
—application/inspection/testing – 6992
—cathodic disbonding – 2688
—cathodic disbonding/temp (elevated) – 9428
—oil fields water injection – 8411
—pipes/application – 8350

Epoxy Resins *(continued)*
—powder ageing, suitability after, tests – 8231
—rebars – 2693, 4317, 9245, 9403
—rebars/problems – 9459
—testing – 8387
glycol (alpha-) end groups, hardeners & – 880P
GPC (preparative) – 1937
halide content (bound)
—low, synthesis methods – 9100P
—reduction – 9099P
heat-curables
—iodonium salts (polymeric) – 9862P
—stability (storage) – 4063P
heat-resistant coatings, pipes – 1144P
high-build coatings, aluminium pigments & – 3493P
high-performance coatings – 365
high-solids coatings – 976
hydroxyl groups, determination – 4513
imides groups, from diacids/glycidyl halides – 6473P
interfacial tension, nitrile rubber & – 8699
interpenetrating networks
—heat-curables/in situ formation – 825P
—polyurethanes & – 818
—primers – 7545
intumescent coatings
— 5970P, 6787P
—offshore structures – 4380
light scattering (quasielastic), below gel point – 6160
linear
—anticorrosives, polyisocyanates/metals & – 407P
—coatings, electrical resistance/ions – 347
—dip coating (two-stage) – 1749P
—diphenylalkyl cyanide units – 9102P
—matt coatings – 9604P
—products isocyanates – 8779P
—solution properties/GC (inverse)/miscibility – 9741
—water-bornes – 2540
—water-bornes, modifiers &, esterification (partial) – 6575P
—zinc dust paints – 1052
linings
—pipes – 7540
—swimming pools, ageing/FTIR – 9664
liquid
—fluoropolymers powders in – 1863P
—synthesis, plants (planned) – 1370
lubricating coatings, silicones/metal powders & – 9620P
marine coatings, glass flakes/white tar etc & – 4343P
market (US), & forecasts – 667
mastics
—maintenance painting – 5150
—testing – 3462
mercaptans & – 1584P
metallic effect, translucent compsns – 6840P
microgels, from epoxies/carboxylated – 9225P
modified
— 9085
—acrylonitrile copolymers (amino) & – 403P
—blends, flexibility/coatings – 9101P
—by acrylics, cans coatings – 9219
—by acrylics, water-bornes – 238P
—by amines/acids, water compatibility – 5463P
—by amino resins, water-bornes – 2544
—by carbamoyl – 8227P
—by diazoquinones/hydroxycarboxylics – 8803P
—by diene polymers – 5247P
—by dienes polymers, chip resistance – 6020P
—by dienes/chloroprene polymers – 2588P
—by dimer acids – 4662P
—by diols (carboxylated) – 8442P
—by drying oils/maleinisation – 5791P
—by epoxy removal, effects – 2402
—by fluoropolymers, solder mask – 5994P
—by imides – 6462P
—by ketimines etc, electrocoating (cathodic) – 6555P, 6556P
—by lignin – 7316
—by Michael adducts, electrocoating – 6571P
—by monomers, dispersants from – 4160P
—by nitrile rubber – 5048
—by phenols/isothiocyanates – 5723P
—by polycarbonates – 2426P
—by polysulphides (modified) – 4921
—by polysulphides, properties – 2403
—cans coatings – 2402
—corrosion resistance etc, urea resins & – 943
—dispersibility – 6555P
—electrocoating (cathodic) – 125P, 8227P
—electrocoating (cathodic), chloride ions removal – 9223P
—electrocoating (cathodic), cratering resistance – 6560P
—electrocoating (cathodic), stoving odours masking – 4193P
—electrocoating (cathodic), Tg increase – 8219P
—flexibilisers for, polyurethanes/kinetics/morphology – 8080
—from epoxies blends/ammonia – 9239P
—phosphites, viscosity (low) – 4080P
—photoresists – 8803P
—polymers side chains, electrocoating – 1671P
—polysulphides – 8160
—polysulphides chains – 1882P
—self-emulsification, polymerisation presence – 975P
—side chains/terminal groups, ionic etc – 1669P
—undercoats, silica & – 1799P
—water-bornes – 125P
moisture-curables, ketimines/pigments (flake) & – 1786P
MS – 3661
multilayered coatings, polyamides/ceramics & – 5801P
oxazolidone groups, synthesis – 6461P
phosphates of
— 8102P
—coatings, epoxy/phenolics & – 4427P
—curing agents – 4066P
—etherified – 5722P
—polymerisation presence – 1082P
—primers, polyurethanes & – 9485P
—reactivity/flexibility – 8510
—synthesis/electrocoating (cathodic) – 4198P
—water-bornes, polymers (hydroxylic) & – 9227P
phosphinates of – 859P
phosphonates of – 4427P
photocurables
— 4662P
—anthraquinone (substituted) – 7088P, 7089P
—silanes (fluorinated)/aluminium compounds & – 7114P
—silanes/fluorophenyl/nitrobenzyl & – 9888P
pipeline coatings, heat resistance – 2770

Epoxy Resins *(continued)*
plasticisers (internal), mechanical properties – 8593
plastics (reinforced), glass fibres treatment – 2913
polydienes/curing agents & – 9625P
polydienes/curing agents/adhesion promoters & – 9274P
polyesters (unsatd)/hydrolysed lignin etc & – 145P
polymerisation (cationic), catalysts, pyridinium – 7295P
polymerisation presence, products as seeds – 3197P
polymerisation/curing, review – 3231
powder coatings from
—acrylics/polyamides & – 257P
—amidines/isocyanates products & – 982P
—anhydrides (polymeric)/sharp melting/flow – 6578P
—anhydrides/maleimides – 9244
—bisphenol A/glycidyl diphenylmethanes products – 7412P
—blends/electronic components/moisture resistance – 8242P
—curing agents – 877P
—curing agents (solid) – 431P
—curing agents, silanes (non-hydrolysable) – 7409
—curing temp reduction – 3358
—electrical equipment – 3362P
—electrical insulation, formaldehyde resins – 1104P
—emissions, aerosols/curing/degradation – 2105
—epoxies blends – 432P
—epoxies blends/curing agents systems – 1687P
—epoxy siloxanes adducts – 3270P
—epoxy/novolacs (modified) & – 8479P
—fire retardants – 5188P
—formulation – 976
—kaolin (modified) – 8241P
—manufacture, resins/pigments mixing – 1030P
—motors rotors slots – 3363P
—multilayered – 8235
—particles (inorg)/glass powders – 7413P
—pipes coatings – 8541P
—resins (proprietary)/formulation – 7407
—textured finishes from – 4200
—ureas & – 9246
—ureas (substituted) – 1681
powders
—explosions, explosive potential – 2112
—water-bornes – 7559P
primers
—adhesives (acrylic) then coatings over – 1153P
—chromic acid etc & – 4353P
products
—polyols (epoxy group-free) – 4082P
—with amino resins/allyl alcohol copolymers – 6518P
—with epoxy/alkyds, water-bornes – 1084P
—with formaldehyde, cans coatings – 1150P
—with phenols (polyfunctional)/amines – 227P, 228P
—with phenols then ammonia – 9239P
—with polycarbonates/unsatd acids – 862P
—with polyols, gel-free – 2435P
—with polysulphides – 195
proprietary
— 8045
—solventless coatings, polyamine-amides & – 2564
purification, halogen (residual) removal – 4081P
pyrolysis/MS – 524
radiation &, effects – 3002
radiation-curables
—diluents (reactive) & – 2143P
—tetrahydrofuran – 6228P
reaction
—with amines, kinetics/diffusion, modelling – 850
—with anhydrides, light scattering/stages – 6165
resists
— 5478P
—polymerisables &, ultraviolet/thermal – 3850P
sealers, for magnesium – 8405
self-crosslinkables – 5032P
self-emulsification, water-bornes – 133P
sensitisation – 4606
silanes (polymeric)/metalloxanes & – 1596P
silyl groups, powder coatings/properties – 2565
solder mask coatings
— 7820P
—hydrazinotriazines – 2791P
—unsatd compounds & – 4660P
solids, from trisphenols – 3255P
solventless coatings
—formulation – 976
—maleimides/pyridazines etc & – 256P
statistics (Japanese)
— 5501
—paints use – 5692
statistics/markets/developments etc – 101
sulphur &, reaction/curing in basic – 917
surface tension, blends containing, temp & – 535
swelling – 7547
synthesis
—companies acquisition – 7890
—effluents, salts recovery – 7799
—from bis(aminoaryl) ethers of bisphenols – 3262P
—intermediates in, TLC – 7689
—joint ventures, South Korea – 7864
—kinetics/mechanisms, modelling – 7315
—low residual halogens – 2425P
—manufacturers (UK) – 5533
—plants (planned), Argentina – 4673
—plants (planned), joint ventures – 676
—two-stage, sodium hydroxide – 1565
synthesis/advantages/chemistry/uses – 109
synthesis/sale, South Korea, joint ventures – 3896
thermal analysis, Tg/char yield etc – 4907
thermogravimetry – 7647
thick coatings, microgels & – 7621P
thixotropic coatings, improvers etc & – 6018P
toughened
— 1586P
—epoxies blends – 4928P
—glycidyl copolymers toughening agents – 1566
—manufacture/properties – 844
—particles (core/shell), shell reactive in curing – 2424P
—polyether-imides – 6035
toxicity, components &, review – 550
treatment, solvent blends/bases, halides reduction – 3256P
triazines groups – 8589
ultraviolet-curables
—curing (delayed), predetermined delay – 2149P
—spiro compounds – 5403
undercoats, silanes & – 6021P
unsaturated
—boats, polyesters replacement – 5154
—from vinylcyclohexane oxide etc – 3252P

Epoxy Resins *(continued)*
—products with monomers/epoxy-reactive monomers – 9104P
varnishes
—amides &, bonding – 6824P
—amines salts &, bonding – 6823P
water &
—absorbance (reduced) – 3252P
—dielectric properties – 2014
—uptake/diffusion/Fick's laws – 2935
water-bornes
— 6548
—amines/thermoplastics & – 9226P
—dispersants (polymeric) & – 5031P
—food industry – 9215
—history etc – 221
—polymers (modified) & – 235P
—two-pack, food industry – 5989
water-bornes (three-component), application – 6632
weather resistance, from alkylene oxides/polyols products – 2699P
wire coatings (self-bonding), blends 1825P
zinc dust paints
— 1777
—chromates & – 4349P
—electrochemical measurements – 360
Epoxy Silanes
coatings
— 3500P
—acrylics/silanes & – 2757P
—for galvanised steel – 5230P
fluoropolymers/polymers (basic) etc & – 1601P
glycidyl ethers/mercaptosilanes adducts – 6023P
hydrolysed
—coatings – 1846P
—coatings, against reflection – 6826P
—partially, abrasion-resistant coatings – 4979P
—partially, amines (blocked) & – 9553P
moisture-curables, triisocyanate prepolymers & – 9154P
polyurethane coatings (moisture-curable) – 8193P
powder coatings – 7409
products
—with amines, dispersants, polyesters chains – 8026P
—with aminosilanes, moisture-curables – 4999P
treatment with, fillers, then with phenols – 3264P
Epoxy Silicates
foams, from epichlorohydrin/silicates/initiators – 4129P
properties – 3218
Epoxy Silicones
adhesives
— 5057P
—isocyanate prepolymers/silicones & – 9287P
coatings – 1177P
synthesis, via Grignard – 4131P
Epoxy Siloxanes
adducts, curing agents for epoxies – 3270P
block/segmented, from aminosiloxanes – 187
products, with cyanates (polyfunctional) – 4128P
reaction, with acetic acid – 185
release agents, onium salts & – 8805P
release coatings – 8532P
release coatings (ultraviolet-curable) – 7808, 9884P
sulphonamides groups – 8108P
synthesis – 5762
synthesis/characterisation – 1637
ultraviolet-curables – 5411
weather resistance, epoxies/siloxanes/chelates/borates – 1806P
Epoxy/Acrylates
brominated, photoresists – 620P
coatings, epoxies/acrylates/polyamines/piperazine – 9122P
modified, water-bornes – 7397P
photocurables, acrylates (hydroxylated, chlorinated) & – 9839
photopolymerisables, optical discs – 2131
polyester acrylates, from tetrahydronaphthylsuccinic & – 625P
primers (ultraviolet-curable), pipes (steel) – 8751, 8752
printing inks, for metals – 4233P
products, with diisocyanates/allyl ethers – 5169P
radiation curing, combination thermal – 5406
radiation-curables
—acrylic/urethanes & – 7110P
—rubber modification/properties – 5425
resists, half-ester/urethane groups – 3025P
silyl groups, ultraviolet curing/curing – 3799
solder mask coatings, hydroxystyrene polymers etc & – 1319P
synthesis, viscosity (low) – 5428
ultraviolet-curables, optical fibres – 1300
Epoxy/Alkyd Resins
products, with epoxies, water-bornes – 1084P
Epoxy/Amine Adducts
chloride ions removal – 9223P
curing accelerators (latent) – 9121P
curing agents
—for epoxies 4065P
—for epoxies, low temp/DSC – 7305
—from (structurally) isopropanolamine/alkoxylated butanediols products – 879P
curing agents for, diisocyanates/uretoneimines/alcohols etc products – 5018P
electrocoating (cathodic) – 6554P, 6557P
from amines/nitrile rubber (amino) – 125P
from epoxies (advanced) – 9103P
from phosphine oxides (amino), flame retardance – 9541
from trisphenols glycidyl ethers – 4929P
modified, urea groups, electrocoating (cathodic) – 4186P
photocurables, from amines/double bonds adducts – 1327P
printing inks, for plastics – 1011P
products
—with beta-hydroxyalkyl esters, water-bornes – 971P
—with carbonates (cyclic) – 9196
—with glycidol – 6474P
—with lactones – 864P
—with maleinised, & water-bornes – 251P
synthesis – 6557P
Epoxy/Novolacs
– 4067P
curing, viscosity/modelling – 6866
fluorinated – 3321P
from cresols
— 3250P
—coatings, moisture resistance – 4431P
from novolacs (four-nuclei), structure/viscoelasticity – 9643
heat-curables, bismaleimides & – 7381P

Epoxy/Novolacs *(continued)*
mechanical properties, imidazoles & – 6140
modified
—powder coatings, epoxies & – 8479P
—unsatd, products – 7096P
powder coatings, dicyandiamide & – 3360P
products, unsatd, solder mask coatings – 7820P
sealants, for semiconductors – 6617P
sealers – 433P, 434P
solder mask coatings, acrylates & – 3853P
solventless coatings – 2564
thermal analysis, imidazoles & – 6140
ultraviolet-curables, parameters/properties – 5422
unsaturated, solder mask coatings – 5487P
volatiles – 3473
xylylene links – 3267P
Epoxy/Phenolic Resins
cans coatings
—adhesion – 5252P
—durability – 7604
—tainting resistance, phenolics synthesis – 5251P
—vinyl chloride polymers & – 4449P
coatings
—bismaleimides &, printed circuit boards – 9627P
—phosphates/phosphonates & – 4427P
curing agents, for epoxies, stability (storage) – 4942P
epoxies (modified) – 2402
heat-curables, silicones & – 4936P
modified, self-crosslinkables – 4089P
powder coatings, electrical insulation – 7587P
powders, heat-curables, novolacs & – 5239P
stoving finishes, polyolefins & – 8500P
Epoxy/Polyamides
anticorrosives, ceramics particles & – 4338P
cathodic disbonding, thickness/pretreatment factors – 9429
coatings, storage/weathering before application – 1284
films, salt content/transport – 6972
heat-curables
—pot-life/stabilisers/sagging resistance – 9043P
—viscosity stabilisers & – 806P
high-solids coatings
—formulation/paint systems/properties – 6687
—rheology during curing – 2831
powder coatings, polyamides greater than epoxies – 2568P
Epoxy/Polyesters
adhesives
—shrinkage (lower)/non-reactive polyesters – 8284P
—wires bonding to boards – 8271P
anticorrosives, titanium phosphate & – 9472
coatings
—chip resistance – 7611P
—epoxies (linear), automobiles – 4442P
from epoxies/lactones – 6537P
from epoxy ester/lactones – 2528P
from polyether-esters – 126P
graft copolymers
—coatings – 864P
—from epoxies (modified)/lactones – 4428P
—from epoxy esters/lactones – 939P
heat-curables
— 6537P
—chip resistance – 5997P
—isocyanates (blocked) & – 6841P
modified, coatings on zinc-coated – 8443P
photocurables – 4662P
powder coatings
—advantages/Canadian market – 3367
—titanium dioxide grades effects – 4819
—zinc oxide/phosphines synergism – 5799P
powders, explosions hazards, pigments/size & – 5358
primers, electrochemical measurements, clear/pigmented – 1054
synthesis, from epoxy esters – 7611P
water-bornes, from polyesters (carboxylated) – 4180P
water-bornes (thermosetting), synthesis – 226P
Epoxy/Resoles
cans coatings – 470P
coatings, deformation tolerance – 3600P
from epoxies/formaldehyde – 1150P
Epoxy/Urethanes
adhesives, from epoxies/diene polymers/urethanes – 2588P
from epoxies/phenols – 5723P
grafting, with acrylic monomers – 2552P
unsaturated
—from epoxy/novolacs – 613P
—oxazolidone/thiazolidinone groups – 3300P
water-bornes, from urethane prepolymers from ketimines – 1673P
Ernst Peter & Sohn GmbH
mergers, with Electron Chemische Speziallack – 6312, 7167
Erosion
coatings, rain/aerospace, standards – 3942
resistance
—coatings (inorg) – 445P
—prediction – 1183
—pumps/coatings – 9420
ERT
mergers, with Cros – 688
Erythorbic Acid
conductive coatings – 8553P
Essex Chemicals
acquisition, by Dow Chemical – 705
Ester Gums
See also rosin esters
Esterification
See also interesterification, polyesterification & transesterification
catalysts
—acrylates synthesis – 7265P
—amine hydrochlorides – 3233
—phosphites/hypophosphites – 4005P
direct, ethylene glycol/terephthalic acid, catalysts/kinetics – 5721
pentaerythritol, kinetics/modelling – 3220
pentaerythritol etc/acrylic acid self adducts – 8114P
rosin
—presence hypophosphites/phosphites – 74P
—presence phosphinic/phenol sulphide – 76P
—with polyols, excess rosin – 75P
trimethylolpropane, kinetics/computers modelling/mechanisms – 3219
Esters
See also oligoester entries
cyclic, polymerisation (cationic), review – 2401
diffusion etc, in polymers (chlorinated) – 8700
half, salts, adhesives, acrylates & – 4214
hydrolysis
—catalysts, zeolites – 4856
—presence polymers, retardation – 4050

Esters *(continued)*
unsaturated
—polymerisation (group transfer) – 4047
—silyl groups, curable compsns – 8789P
Etch Primers
See wash primers
Etching
concrete
—detergents/org acids etc – 5100
—membranes removal & – 8372P
—standards – 8921
fluoropolymers, by oxygen (atomic) & undercoats protection – 9756
plastics, lasers treatment – 8634
resistance, fluoropolymers/X-rays treatment – 884
Ethacrylic Acid
polymers, coatings – 5848P
Ethanol
acetaldehyde from, toxicity – 572
exposure, toluene &, blood erythrocytes – 2107
intake, styrene biological monitoring & – 4570
photo-oxidation, on titanium dioxide – 1464
production, wastes, varnishes – 3582P
trichloroethylene metabolism & – 4599
Ethanolamine
polyurethane coatings, mechanical properties – 8399
Etherification
cellulose – 4987P
Ethers
cyclic
—polymerisation (cationic), initiators – 9075
—polymerisation (cationic), review – 2399
mixed, synthesis, catalysts – 48
Ethyl Acetate
hazards/toxicity/uses/properties/safety – 7221
Ethyl Acrylate
determination, in air, sampling/GC – 9718
reaction
—with acetoacetates – 2384
—with acetoacetates, catalysts – 4996
recovery, from black acid – 7060P
synthesis
—distillation in, fouling inhibition in – 4861P
—wastes, acrylic acid/ethyl acrylate recovery – 7060P
TLV
— 2942
—ACGIH documentation – 7044
toxicity, chromosome aberrations, lymphoma cells – 2098
Ethyl Acrylate Copolymers
composition
—distribution, high conversion determination/theory – 2895
—pyrolysis/GC – 6944
fractionation, by composition/MW – 7298
terpolymers, composition determination – 9724
Ethyl Hydroxymethylacrylate
polymerisation, kinetics/reactivity ratios etc – 5719
Ethyl Methacrylate
copolymers
—composition by TLC – 6107
—terpolymers, composition determination – 9724
toxicity, chromosome aberrations, lymphoma cells – 2098
Ethyl Silicate
hydrolysed, antistatic coatings – 5207P
Ethyl Vinyl Ether
See vinyl ethyl ether
Ethylbenzene
derivatives, phenylethylpotassium, synthesis, initiators – 2324
Ethylcellulose
coatings, on pigments, oxides over, fixing by – 6384P
cross-linked, pigments (org) coated by – 5625P
ethoxy content, by GC – 8930
pigments (org, oxide-coated) fixing – 5624P
Ethylene
block copolymers, styrene & ethylene/butylene – 3374
plasma polymerisation, barrier coatings – 2635
polymerisation, catalysts, Ziegler-Natta/transition metals – 3215
products, acrylates – 7270P
reaction, with metals surfaces – 5278
supply/demand, & derivatives situation/paints uses – 3036
Ethylene Carbonate
groups
—curables – 134P
—curing agents for – 4077P
—polyamines (hydroxylated) – 236P
—products with amino group-containing – 905P
polymerisation (ring-opening), glycols &, structure – 5700
Ethylene Copolymers
adhesion, to aluminium, treatment – 5874
adhesives (hot-melt)
—comonomers – 2570
—moisture-curable, urethane prepolymers & – 1695P
adhesives (water-borne), status/uses/future impact – 2573
coatings
—for plastics – 9554P
—substrates from, for photosensitives – 4238P
epoxy groups, & coatings – 5655P
grafting, coatings from film formers & – 2522P
halogenated, wires/cables coatings, phthalates & – 5228P
mercaptan groups, coupling agents – 6416P
modified
—by maleic/initiators etc – 3217P
—powder coatings – 6579P
oxidised, additives – 3266P
silyl groups, moisture-curables – 5963P
Ethylene Copolymers, Carboxylated
coatings – 5848P
NADs, from aq compsns – 9302P
polycarbonates & – 3257P
Ethylene Copolymers, Hydroxylated
coating uses etc – 5655P
Ethylene Dichloride
synthesis, plants ,US, sale failed – 9958
Ethylene Glycol
esterification, with terephthalic acid – 5721
ethers/ether acetates, exposure limits – 4612
polyether-urethanes – 2464
products, with chlorosilanes – 8152
reaction, with silica – 8163
synthesis, from carbon monoxide, catalysts/promoters – 47
water pollutants, treatment – 8732
writing inks, scratching avoidance – 5069P
Ethylene Glycol Dimethacrylate
copolymerisation
—with styrene – 111

Ethylene Glycol Dimethacrylate *(continued)*
—with styrene, kinetics – 833
Ethylene Glycol Monobutyl Ether
determination, in paints, GC – 6938
exposure, uptake/metabolism etc – 5365
replacement, alkyd concentrates for water-bornes – 9010
Ethylene Glycol Monoethyl Ether
photodegradation, presence titanium dioxide – 6377
toxicology, reproductive systems – 7772
Ethylene Glycol Monoethyl Ether Acetate
specifications – 8913
Ethylene Glycol Monohexyl Ether
toxicity/irritancy – 2052
Ethylene Glycol Monomethyl Ether
exposure, bone marrow, residual effects – 4587
plasma polymerisation – 5704
teratogenicity, metabolites & – 2109
toxicity, women (pregnant) – 2104
Ethylene Glycol Monomethyl Ether Acetate
toxicity, women (pregnant) – 2104
Ethylene Glycol Monomethyl Ether Methacrylate
copolymerisation, composition/conversion/MW – 5285
Ethylene Oxide
carcinogenicity, review – 9762
exposure limits (US), excursion limits – 708
sampling, desorption after, sealed vials – 5276
toxicology, chromosomes aberrations studies – 5362
Ethylene Polymers
adhesion, to aluminium, functional groups – 6037
adhesives (hot-melt), improvement – 2570
carboxylated, adhesives, sheets – 8277P
waxes, adhesives (hot-melt) – 9253
Ethylene/Acrylic Acid Copolymers
proprietary, synthesis, plants expansion – 9933
Ethylene/Butylene Copolymers
adhesives (hot-melt), polybutylene & – 9276P
pressure-sensitive adhesives – 9280P
Ethylene/Chlorotrifluoroethylene Copolymers
surfaces, ethylene segments – 1217
Ethylene/Maleic Anhydride Copolymers
of acrylates, adhesives/pipes coatings – 4914
Ethylene/Propylene Copolymers
adhesives, polybutylene &, insects etc trapping – 2579P
adhesives (hot-melt), vinyl acetate copolymers & – 5831P
blends, pretreatment – 1041
block copolymers & – 2778P
chlorinated, synthesis (multistage) – 160P
composition, drift with MW – 6058
GC (inverse), cross-linking degree – 9706
grafting, with maleics, primers – 7599P
modified, reaction polybutadiene diols – 5682
NMR, carbon-13/proton – 9666
photo-crosslinking
— 1296
—coatings – 8760
—mechanisms/model compounds – 9845
—modelling – 6212
photo-oxidation, mechanisms/stabilisers – 7276
pressure-sensitive adhesives – 9280P
Ethylene/Vinyl Acetate Copolymers
adhesives
—hydrocarbon resins & – 9266P
—usage/modification – 2572
adhesives (hot-melt)
— 985, 995P
—isocyanates/propylene polymers & – 5831P
—surfaces/failure surfaces – 6084
adhesives (water-borne)
— 2573, 4218, 6589P
—polyvinyl alcohol & – 5829P
blends, with polyethylene (chlorinated), gases & – 6121
carboxylated
—adhesives (hot-melt) – 995P
—adhesives (water-borne), aziridines etc & – 9307P
composition, determination, pyrolysis/GC – 4530
contact angles, surface free energy & – 1241
emulsions, acrylamide (substituted) & – 6550P
epoxy groups, adhesives (water-borne), epoxies & – 2577P
fillers &, combustion products/corrosion – 3775
high-solids coatings, flooding/streaking – 2523
hot melts, thermal analysis – 2922
hydrolysed, emulsions, solvent-free, via solvents – 2560P
modified
—sealers (temporary) – 9326P
—self-crosslinkable, bonding with – 1693P
NMR (carbon-13) – 3660
of glycidyl methacrylate, microstructure – 6073
of vinyl esters, latices/water-bornes – 5730P
primers, petroleum resins/terpenes resins & – 7615P
saponified
—dispersions (aq) via solutions – 3352P
—partially, powder coatings – 8244P
—pyrrolidones groups – 443P
synthesis, presence vinyl alcohol copolymers – 6589P
water-bornes – 2545
Ethylene/Vinyl Alcohol Copolymers
contact angles, surface free energy & – 1241
modified
—by anhydrides, & cross-linking – 8079
—by hydroxycarboxylics, & cross-linking – 8079
sterilisation, barrier recovery process – 8704
Ethylene/Vinyl Chloride Copolymers
emulsions, polyvinyl alcohol-stabilised – 6484P
latices, surfactants (external) free, properties/uses – 3348
water-bornes, siloxanes/silicones & – 4352P
Ethylenediamine
curing agents, for epoxies – 4904
derivatives, zirconium chelates – 4875P
reaction, with dimer acids, kinetics – 888
Ethylenediaminetetraacetic Acid
electrocoating (cathodic) – 4195P
salts, adhesives stability against ions – 5828P
Ethyleneimines
See also aziridines
Ethylhexanediols
acrylates
—photocurables, optical fibres – 3847P
—ultraviolet-curables – 3846P
Ethylhexanols
synthesis, still residues, uses – 9009
Ethylhexyl Acrylate
copolymers, emulsion paints – 2789P
particles (core/shell) – 9064
Ethylhexyl Methacrylate
polymers, solutions, enthalpies – 2571

Ethylhydroxyethylcellulose
synthesis/rheology – 3996
Ethylidenenorbornanes
groups, acrylics/silyl groups – 7369P
Ethylidenenorbornenes
copolymers, initiators/photoinitiators & – 5688P
products, with silanes/acrylic acids, polymers – 7368P
Etidronates
additives, against rust staining – 8395
Eugenol
derivatives, diluents (reactive) – 7261P
Euramax Aluminium Ltd
coil coatings, application, lines – 3917
Europe
statistics, handbooks – 1356
European Colour PLC
from Horace Cory/Ellis Jones – 678
European Communities (Finance) Act 1988
provisions – 1393
European Economic Community
aerosols, chlorofluorocarbons recommendations – 7198
barium chloride, excise duties/anti-dumping – 8853
building materials, certification schemes – 8655
customs duties/trade items classification – 1385, 3078
directives (draft)
—health & safety, directives (framework) – 7199
—lead-containing paints/UK historic – 4766
directives (proposed)
—hazardous materials – 8850
—health & safety measures – 4739, 4748
—health & safety requirements – 4749, 6329
—health & safety, framework for – 7192
—health & safety, handling – 4751
—health & safety, machinery – 4752
—health & safety, machines/equipment etc use – 4750, 6327
—organo-tins, Select Committee reports – 4768
—protective equipment (personal) – 4753, 4755, 6328
—titanium dioxide manufacture wastes – 4742
—visual display units – 4754
—wastes (hazardous) – 2222
—wastes disposal etc – 2221
directives etc of, directories – 4747
directives of
—air pollutants, amendments (proposed) – 6332
—air pollution – 9971
—air pollution, implementation UK – 4760
—antifoulings/proposed amendments – 4740
—chemicals – 9990
—chemicals (new), R & D implications – 6323
—chlorinated compounds/effluents limits – 1384
—chlorofluorocarbons/brominated fluorocarbons – 1387
—emissions/air pollution control – 3922
—explosive atmospheres/electrical equipment – 3077
—exposure limits/assessment – 5581
—hazardous materials labelling – 3924
—hazards (major), information – 1388
—hazards (major), Spanish implementation – 3932
—health & safety – 7933
—health & safety measures – 8854
—health & safety/UK & – 4767
—lead-containing paints, labelling – 8851
—machinery – 8855
—plants (industrial), implementation UK – 4759
—product liability – 9972
—product liability, UK consumer regulations & – 1333
—public sector supply contracts, UK – 4745
—public works contracts, amendments – 9973
—requirements – 5454
—solvents (chlorinated) – 4743
—titanium dioxide manufacture wastes – 7912, 8856
—wastes (hazardous), transport (transfrontier), UK implementation – 7913
—wastes (hazardous), UK circulars – 7914
directives/position, packaging – 5580
environmental policy – 5386
financing of, regulations (UK) – 1393
harmonisation/taxation/regulations – 646, 1332
health & safety, organisations/workers – 1383
innovation/technology transfer, SPRINT – 6330, 6331, 6333
leases, property (commercial) – 9986
ozone layer, Vienna Convention/Montreal Protocol – 1386
painters qualifications, vehicles spraying – 8852
publications, catalogues – 4792
regulations
— 2054
—hazardous materials, transport/packaging – 1399
Single European Act – 710
single European market
— 646, 668, 1332, 1333
—adhesives manufacturers – 6278
—advice – 6314
—chemical industry – 3034, 9957
—chemical industry (German) – 9961
—chemical industry (Swiss) – 9904
—chemical industry, US/Japanese & – 2179
—Finland & – 7122
—fire tests – 2957
—health/environment pressures – 5582
—intumescent coatings testing – 3547
—litigation – 8863
—paint industry (Belgian) – 6266
—painters etc – 7907
—progress towards – 9922
—qualifications – 8852
—standards (Italian, current) – 9992
—UK Department services – 1333
standards/product liability/regulations – 1333
statistics, handbooks – 1356
treaties establishing, & Coal etc/Atomic – 710
European Economic Interest Grouping (Fees) Regulations 1989
provisions – 8861
Europium
chelates, inks, luminescence – 1015P, 1710P
complexes, fluorescent coatings – 1139P
Euroquartzo
joint ventures, Sigma Coatings & – 7891
Evaporation
evaporators (falling-film) – 3426
film formation – 3339
from water-bornes, review – 7785, 7795
rate
—determination, solvent blends, individual/total – 4482
—solvents – 4788
—solvents from binders solutions, calculation – 2031

Evaporation *(continued)*
solvents
—coatings drying, modelling – 3758
—films/mechanical properties changes – 5307
—loss indication by colour change – 8986P
solvents/water systems, modelling – 1248
Evaporators
aluminium, repair, adhesives (epoxy) – 9259P
Evening Primrose
oils, triglycerides composition – 9708
Evode Group
acquisitions by, of Oxyplast – 7878
Excise Duties
barium chloride, EEC, anti-dumping – 8853
Exclusion Chromatography
viscometers (membrane) as, pores – 1920
Exhaust Systems
anticorrosives, epoxies – 6746P
anticorrosives (water-borne), heat resistance – 2535
heat-resistant coatings, polyester-imides – 6814P
Exhibitions
German
—chemical industry equipment – 1023
—filters/pumps – 6205
—mills (proprietary) – 4252
—mills/sieving equipment – 1724
—testing/measuring equipment – 6166
US
—analysis equipment/software – 7648
—paint industry relevant – 2511
Expansion
See also thermal expansion & shrinkage
films (polymer), determination/gases causing – 7738
orthoesters (bicyclic) groups, polymers with, curing – 8115P
polymerisation
—examples – 6425
—spiro compounds – 5716
ultraviolet-curables, orthoesters with – 5403
Experimental Design
See also factorial design
coatings, pigments blends – 2918
formulation
—anticorrosives – 2668
—pressure-sensitive adhesives – 268, 3376
pigments/colorimetry/sample preparation/testing effects – 2807
Expert Systems
analysis (chemical) – 9667
coatings etc selection – 3074
construction/role/quality control – 2216
corrosion
— 745
—& databases integrated with – 707
—pipelines – 386
corrosion control
— 7542
—corrosion inhibitors selection – 5572
—materials selection – 5576
directories – 730
directories/bibliographies – 4802
gloves selection – 565
hazardous materials handling – 9794
HPLC – 6952
HPLC (reverse phase), retention index prediction/optimum conditions – 6053
moisture determination, sampling points etc – 1194
MS (laser ionisation), polymers – 6915
particles classification, by composition, electron microscopy (scanning) – 2867
plants, process control, troubleshooting – 3425
polymers, blends – 9047
principles/analytical chemistry – 4487
software for – 730
Explosions
aniline – 4588
diacetone alcohol – 4590
dioxane – 4589
dusts
—electricity (static) – 3097
—explosive potential tests/results – 2112
—hazards/testing/measures – 5349
—parameters (measurable)/assessment/measures – 2097
—research – 2062
—venting, vent dimensions – 2094
—vents sizing – 4607
epoxy/polyesters, hazards/pigments/particle size – 5358
hazards, testing, laboratories – 9947
ignition sources, sparks/hot surfaces – 2053
isophorone – 4591
paint industry materials – 4800
phthalic anhydride synthesis, prevention – 9774
powder coatings – 7770
powders
—causes/situations/electrostatic – 7026
—explosive potential, determination/parameters – 4605
—pressure characteristics – 8720
resistance to, intumescent coatings – 4380
tetrafluoroethylene – 2437
trichloroethane
— 4575
—tanks/welding – 6196
venting
— 2062
—panels/insulation (thermal) – 2056
—vents (proprietary), air cushion – 2051
waxes powders manufacture, studies/measures – 2061
Explosive Atmospheres
See also flammable atmospheres
electrical equipment, EEC directives/European standards – 3077
Explosive Limits
dusts, prediction/comparison – 2093
Exposure
acrylates (polyfunctional), radiation-curables & – 5370
aromatic compounds, blood erythrocyte haemoglobin patterns – 9795
aromatic compounds (polycyclic), roads dressing – 3772
assessment, EEC directives – 5581
benzene
— 2116
—length/discontinuities/cancers – 9792
—low, effects – 2115
benzene/toluene, metabolic suppression (mutual) – 2954
cadmium, vitamin E/ascorbic acid levels – 7037
chemicals, sclerosis (multiple) – 7762
chlorinated compounds, pharmacokinetics – 7030
chromium (hexavalent), sister chromatid exchange – 4598

Exposure *(continued)*
cobalt blue, monitoring (biological) weeks later – 3777
colourants, assessment – 2049
dusts
—correlation with testers – 4616
—powders handling – 5353
epoxy groups, aerosols in spraying – 9688
ethanol/toluene – 2107
ethylene glycol monobutyl ether – 5365
ethylene glycol monoethyl ether – 7772
formaldehyde
—airways narrowing – 9763
—low, blood levels & – 2063
—past, estimation now – 4604
—solvents &, respiratory systems – 9779
formaldehyde/solvents – 6168
hazardous materials, cameras (video)/bar graphs – 7783
hexamethylene diisocyanate, immune system & – 9775
hydrocarbons, short, effects – 4585
isopropanol, printing, monitoring (biological) & – 5283
kaolin, respiratory systems, exposure duration etc – 7034
lead
—kidneys – 4569
—surveillance (medical)/health – 4757
metals (heavy), artists – 1276
methylene chloride, livers/enzymes – 2088
pesticides, control, codes of practice (draft) – 1394
phthalates, skin/absorption – 8709
polyurethanes/nitrocellulose use – 6099
solvents
—artists (graphic), effects – 2967
—estimation (retrospective) – 6936
—estimation/control – 4788
—mixtures, tolerance ranges – 6186
—occupational levels, Norway, reduction – 8848
—olfactory function impairment tests – 5377
—painters/neuropathy, re-examination – 560
—sclerosis (multiple), case-referent studies – 4580
—visual disorders/neuropathy – 6192
styrene
—below TLV, symptoms – 9760
—cytogenic/haematological studies – 7020
toluene
— 2116
—assessment, monitoring (biological) – 566
—estimation (subjective), by hygienists – 5364
—fatty acids/triglycerides in plasma – 7777
—livers – 2946
—monitoring (biological) – 7684
—serum bile acids – 4581
trichloroethylene, reproductive systems/lymphocytes – 5376
vapours (org), buildings (domestic) – 3784
volatiles, skin, monitoring – 6901
xylene, serum bile acids – 4581

Exposure Limits
See also biological exposure limits, Biologische Arbeitsstoff-Toleranz-Werte, maximum allowable concentrations, Technische Richtkonzentrationen & threshold limit values
acids/bases, organic, from dissociation constants – 9813
acrylamide – 3785
aniline – 4588
butadiene – 2943
chemicals, pocket guides – 5606
chemicals (various) – 5601
diacetone alcohol – 4590
dioxane – 4589
diphenyls (chlorinated) – 9766
EEC directives – 5581
Exxon – 3096
French
—development/considerations/carcinogens – 2092
—lists/values – 2082
German (West), lists – 2084
heptane – 2083
hexachlorocyclohexane – 2085
isophorone – 4591
lists – 1394
multiple, control to one, log-normal distributions – 2962
nickel – 4578
Russian, lists – 2084
solvents – 4788, 4808
solvents (chlorinated) – 1491
solvents (various) – 7221
Swedish, lists – 8741
toluene, exposure above – 2080
UK, lists – 3930
ultraviolet radiation – 2942, 5378
US
—diaminodiphenylmethanes, proposals – 7919
—excursion limits, ethylene oxide – 708
—lists – 2084
—lists, OSHA air contaminants standards – 7920
—OSHA, new/changed – 7207, 9987

Extender Pigments
See also fillers
talc – 5617
titanium dioxide &, hiding power – 5769

Extenders
aluminium silicate (hydrated, natural) – 3087
composition/crystal form/manufacture/properties/uses, various – 6336
dolomite, properties/health & safety – 8
effects, PVC increase by – 6858
emulsion paints (matt), formulation – 7725
formulation
— 2809
—titanium dioxide/hiding power & – 2806
paper, statistics/forecasts etc, market studies (American) – 7837
proprietary
—aluminosilicates – 5
—magnesium carbonate (calcareous) – 3
quartz, standards – 3088
raw materials, books/statistics etc – 8958
silicate paints – 762

Extensibility
coatings, for concrete – 7622P

Extraction
by methylene chloride, pollutants studies, stabilisers interferences – 2857
fatty acids, from oils, by alcohols – 9000
flow injection analysis, solvent extraction – 4511, 4512
metals (heavy)
—from particulates, analysis & – 3675
—toys, determination/limits – 8940
metals (soluble), toys – 3944
novolacs, low MW removal – 8778P
organics, from water, salts effects – 8623

Extraction *(continued)*
paints, acid-solubles – 6356
polyimides/cobalt compounds films – 2458
with supercritical fluids, review – 7676
wood preservatives, by water, standards – 2228
Extruders
dispersion, titanium dioxide/polyesters – 4835P
Extrusion
ink stock manufacture – 4240P
Extrusion Coatings
for aluminium, ethylene copolymers, adhesion/treatment – 5874
printing over, pretreatment – 8352
wires
—application, theory/simulation/experiments – 2636
—processes/materials/mathematical analysis – 3546
Exxon Chemical
acquisitions by, of Noroxo – 1372
joint ventures, Dow Chemical & – 3910
methyl ethyl ketone, plants – 4706
Exxon Chemical Ltd
quality assurance accreditation – 2205
Eyes
disorders, solvents exposure – 6192
irritants, testing – 557
neuritis (retrobulbar), styrene – 2100
ultraviolet radiation – 5378

F

Fabrics
See also textiles
inks (erasable) – 1012P
Facades
coatings
— 6810
—comments/future – 6811
—potassium silicate – 8313
—silicates/siloxanes/silicones – 2491
cracks, causes/types/measures – 282
defects, salts, causes etc – 9473
moisture-curables, graft copolymers, silicones/acrylic monomers – 1639P
renovation, defects after – 6643
water-bornes, silicones – 2491, 8205
Facsimile Machines
inks (semi-solid) – 1013P
Factorial Design
oleates synthesis conditions – 2276
Factories
insulation (thermal), performance – 7911
Fading
colourants, nitrogen dioxide exposure – 7241
Fans
strippable coatings, polyurethanes – 6026P
Farm Machinery
See agricultural equipment
Fast-curing Coatings
See also polyurethane coatings
alkyd/amino resins – 7377
epoxies – 880P
epoxies/amine-amides – 4088P
polyamines, from polyols/nitrohalobenzenes – 4113P
powder coatings, polyesters – 7404
weather resistance, epoxies/acrylates etc – 6757P
Fast-curing Compositions
See also sealants (fast-curing)
acrylics, from cumyl isocyanates (unsatd) – 2483P
epoxies
— 1570P
—acetals (cyclic) products & – 3247P
epoxies/mercaptocarboxylics – 1583P
ethylene carbonate groups, & isocyanates/amino resins – 134P
isocyanates (blocked)/unblocking catalysts – 2484P
polymers (hydroxylic)/vinyl ethers – 6825P
urea resins (modified), by rosin – 7341
Fast-drying Coatings
See also polyurethane coatings, primers & water-borne coatings
alkyds/formaldehyde resins – 4152P
printing &, blocking/set-off control – 277P
Fast-drying Compositions
See also inks, overprint varnishes, polyurethane compositions, printing inks & 'printing inks, water-borne'
Fasteners
plating, Ni then Zn, electrocoating over – 9505P
Fatigue
interpenetrating networks – 2828
steel (coated), corrosive environments – 4301
Fats
derivatisation, fatty acid methyl esters from – 7255
Fatty Acid Esters
chlorination, regioselective – 789
curing – 7254
diffusion, in supercritical fluids – 4545
double bonds (trans), determination – 3695
hydroxylated, products, urethanes, emulsifiers – 7347P
of pentaerythritol, synthesis, kinetics – 3220
of polyols, anticorrosives – 9495P
synthesis
—from fats, methyl esters – 7255
—from oils/fats, catalysts – 3133
transesterification, with polyols, presence soaps etc – 6399P
unsaturated
—acids (unsatd)/alcohols (unsatd), diluents – 8243P
—double bonds (trans) determination – 517
—monolayers/bulk, oxidation, temp effects – 38
Fatty Acids
amides, determination presence fatty nitriles – 2863
branched, polyesters modified by – 141P
chlorination, regioselective – 789
chromatography (reverse phase), detectors – 6905
cyclic groups, from heated oils – 7256
cyclopropenoid, Hibiscus spp – 6395
derivatives, coupling agents (titanate) & – 6024P
directories (US), producers/properties – 787
epoxidised
—corrosion inhibitors – 393
—from oxazinones – 9507
—Hibiscus spp – 6395
epoxy esters, copolymers, dispersants (polymeric) – 4190P
evaporators (falling-film) – 3426
extraction, from vegetable oils by alcohols – 9000

Fatty Acids *(continued)*
fluorinated, salts, toxicity – 9780
free, GC, chromatograms – 7649
from Cupressus spp – 7253
from Hibiscus spp – 6395
from soyabeans, analysis, seeds still viable – 6902
from tall oil
—dimerisation/catalysts/viscosity – 4852
—free/esters, HPLC – 6907
GC
— 1942, 1990
—vegetable oils blends analysis, matrix inversion – 3638
maleinised
—products with epoxies – 251P
—products with polyols, urea etc groups – 250P
MS, collision-induced decomposition, mechanisms – 2893
neutralised, coagulants, overspray washes – 4626
oligomers, flow control agents – 1515P
polyamides, water-bornes – 6565P
polymerisation, two-stage – 2278P
polymerised, polyamides – 7355P
products, with acrylates, polymers – 956P
properties, prediction, carbon number/temp – 1490
salts, sealants – 284P
sealants, curing by hydroxides – 6619P
statistics/forecasts, (US), coatings use – 7841
statistics/forecasts (US) – 7841
synthesis, process control – 4253
unsaturated
—distillation, energy saving/waste water – 3134
—HPLC – 4485
—reaction, free-radical addition – 4854
volatile, GC/matrix isolation/FTIR – 7661
wire coatings, friction (low), polyols/polymers & – 9538P
Fatty Alcohols
phosphates
—synthesis – 66P
—synthesis/purification – 67P
synthesis
—companies (German)/USA – 7899
—from glycerides – 6397
Fatty Compounds
phosphate coatings – 9373P
synthesis, companies (German) activities, USA & – 7899
unsaturated, monolayers, multilayers polymerisation – 598
Feldspars
markets/producers/deposits/outputs etc – 7940
Felt-tip Pens
inks, polyvinyl butyral/carbon black – 4241P
Fences
wood stains (water-borne) – 8512
Ferric Compounds
coatings immersed in, iron(III) from – 8646
pretreatment, with silica & – 325P, 1738P
Ferric Fluoride
autophoretic coatings – 7387
Ferric Oxide
alpha-
—adsorption on, surfactants, alternate anionic/cationic – 2023
—natural, anticorrosives/barrier effects – 7961
—particles (monodisperse), from complexes – 6370
—surfaces, hydroxyl groups – 767
colloids, reduction/iron(II) fate/mechanisms – 2025
gamma-
—adsorption on, acrylics, solvents effects – 1243
—adsorption on, polymers/phosphates groups – 2927
—coated, by copolymers – 5631P
—crystals structure – 6376
—dispersibility, acrylics (carboxylated), absorption – 2258
—dispersibility, polymers/phosphates (acidic) groups – 2927
—from iron oxide hydroxide – 5620
—magnetic coatings, wear resistance – 9316P
—surfaces, hydroxyl groups – 767
Ferrites
adhesives, heating & – 6594P
coated
—by copolymers, dispersibility – 5631P
—by polyols, concentrates/dispersibility – 4826P
of barium, manufacture – 785P
of iron/zinc/manganese, zinc dust modfied by – 7
of strontium, manufacture – 785P
Ferro Corp
acquisitions by, of Chevron speciality unit – 7862
Ferrocene
amino groups, polyamides, sebacoyl chloride/hexamethylenediamine & – 1634
Ferrous Compounds
coatings, odours control – 5233P
iron oxide (micaceous) from – 7967P
Ferrous Ions
determination
—spectrometry, chelates, presence Cu/Zn – 3659
—spectrometry, presence ferric – 6074
Ferrous Metals
See iron, steel & metals
Ferrous Sulphate
contaminants, coatings/corrosion resistance – 4312
crystallisation, sulphate process, vacuum/other – 3963
solutions, conductivity (electrical) – 2020
Fertilisers
manufacture, plants, corrosion/control – 5135
plants, coatings, corrosion resistance – 6731
resistance to, anticorrosives – 9472
Fibre-tip Pens
inks, rheology – 5068P
Fibres
See also carbon fibres, glass fibres, mineral fibres & optical fibres
application, to surfaces, reactive components simultaneous – 7625P
ceramics, from organo-silicons – 3961
coated
—by nickel, antistatic coatings – 7597P
—by oxides, conductivity (electrical) – 3581P
—titanates, conductivity (electrical) – 6003P
coatings – 3355P
electrocoating, binders & – 972P
extensible, coatings, binders &, extensibility – 7622P
identification, paint films contaminants – 6130
inorganic, electrocoating (cathodic) – 5491P
metals, orientated, adhesives/heating (induction) – 9286P
milled, flow/shear, size/shape & – 3635
novolacs, structure/manufacture/uses – 9539

Fibres *(continued)*
organic, eletrocoating (cathodic) – 5491P
titanates – 5633P
Field Flow Fractionation
book chapters – 3099
flow, fibres (hollow) use, theory/experiments – 4502
particles, theory/applications – 6071
sedimentation
—characteristics/combination light scattering (quasielastic) – 3752
—colloids, reinjection/different carrier densities – 6925
—enhancement, by microemulsions in carriers – 1914
—perturbations by walls – 6914
theory/methods/optimisation – 1947
thermal
— 1947
—band broadening correction/polymers – 6097
—detectors, viscometers as – 5275
—hyperlayer, polymers, fractionation, MW high – 3666
—polymers – 5316
—polymers/solvents, diffusion (thermal) – 8693
Field Ion Microscopy
See mass spectroscopy (secondary ion)
Filiform Corrosion
resistance, primers – 2706P
testing
—anticorrosives, stimulation by salts under – 2725
—standards – 6354
Filler Surfacer Compositions
water-bornes, polyether-urethanes – 1664P
Fillers
calcium sulphate, grinding – 8974
carbonates, review – 8972
coated
—by polymers (acidic)/unsatd, in acrylics – 5627P
—by polymers, acrylics matrices with – 4832P
—by polymers/organo-silicon groups – 4433P
directories (German), properties/suppliers/uses – 5604
flow point, determination, quantity vehicles needed – 6341
health & safety data sheets – 4800
interpenetrating networks &, viscoelasticity – 1192
magnesium carbonate (basic), containing calcium – 25P
market/technology forecasts – 1331
modified, by epoxy silanes/phenols – 3264P
paper, statistics/forecasts etc, market studies (American) – 7837
particle size distribution, determination – 6340
plastisols, comparison – 4816
polymeric
—acrylics or vinylphenyl polymers – 143P
—emulsion polymers – 4891P
raw materials, books/statistics etc – 8958
residues, handling – 5855
rheology, in plasticisers, predictions from – 1188
sealants, behaviour prediction – 1188
silicone rubber &, substrates from – 9268P
surfaces, GC (inverse) – 523
synthetic, statistics (Japanese) – 1345
treated
—by mixing then spray drying or spray firing – 1481P
—dispersants (polymeric) – 63P
—hydrophobicity, coatings against ice – 3601P
—with catalysts, polymerisation presence – 6387P
tyres manufacture wastes – 1281P
white, phosphogypsum (treated) – 7974P
Filling
drums, electricity (static), incidents/guidelines/types – 2057
equipment
—types/selection – 2980
—valves/compensators/automation – 7065
equipment (proprietary)
—developments – 3420
—powders, developments – 3416
liquids (viscous) – 2980
Filling Compositions
cooling systems repair – 2689
polyesters (unsatd), inhibitors – 8104P
proprietary, for wood – 9942
railway stock, polyesters (unsatd) – 1778
surfaces of, effects on coatings – 7487
ultraviolet-curable
— 9901P
—for wood – 2167P
—polyesters (unsatd), alkyleneimines-modified – 4668P
—polyesters (unsatd)/boric acid – 9883P
water-borne, epoxies (modified) – 251P
Film Formation
emulsion paints, studies/dielectric properties – 8668
heat-curables – 4992
latices
— 2538
—emulsifiers fate – 4535
—microwave spectrometry – 3717
mechanical properties/stresses changes – 5307
organo-silicons, thermal treatment & – 7360
powder coatings (thermosetting), rheology/factors 9651
solvent-bornes, drying, review – 3339
Film Thickness
See also thickness
antifouling paints, film thickness, problems/control – 8447
antifoulings – 4358
barrier coatings – 5145
cathodic disbonding – 9429
coatings, application/increased/agricultural equipment – 8370P
corrosion resistance, electrochemical measurements – 6692
determination
—automobiles, original/refinish distinction – 6973
—coil coatings, monitoring (continuous) – 9729
—equipment (proprietary) – 6961, 8687
—FTIR (reflection/absorption) – 2879
—grooves/microscopy – 8918
—intumescent coatings – 4376, 6776
—lasers (infrared) – 6985
—methods/suitability/equipment selection etc – 6971
—on wood, microscopy – 8903
—photothermal radiometry/each layer – 5320
—standards – 6343, 6358
—statistical process control/microprocessors/computers – 6976
—thin films, electron emission (optically-stimulated) – 6899
determination/specification, problems/proposals – 4558

Film Thickness *(continued)*
electrocoating
— 8373P
—additives – 6563P
electrocoating (cathodic)
— 2542
—epoxies, control by isocyanates – 8212P
—high/factors – 8207
ellipsometry, computer programmes – 1267
metallic finishes, total/layers, appearance – 5312
passivation, steel (chromium) – 7475
photocurables, modelling – 5417
plastisols, weathering losses – 2897
positrons annihilation & – 372
powder coatings – 7411
quality control, statistical process control – 4544
roller coating, control/gap metering – 5082
Film-forming Temperature
minimum
—latices, acrylics – 2538
—Tg & – 3716
Films
See also paint films
coating of
—companies (US) acquisition – 7865
—equipment – 8361P
convection, cells/solute accumulation – 4537
flow, visualisation, bubbles/dyes etc – 6040
orientated
—adhesives/release layers on – 7613P
—primers/heat-sealable coatings – 1844P
Films, Polymer
anti-misting coatings, alkanolamines – 8497P
coatings
—acrylics/cellulose esters – 8490P
—defects detection/assessment – 937
—developments, patents/future – 5973
—polyamides (alkoxylated) – 446P
curing agents for, acetals/acids – 812P
expansion, thickness dilation, determination – 7738
laminates using, lower gloss, polymer blends – 3615P
mechanical testing (dynamic) – 4476
modification, hydroxylation/derivatisation – 156
orientated, silicones migration to surfaces – 9610P
permeability, oxygen, determination, humid conditions – 6993
polyethylene, stabilisers – 9027
pretreatment
—electrical discharges/chlorinated compounds – 8364P
—for inks, methods – 8352
primers/heat-sealable coatings – 1844P
printing inks, polyurethane-ureas/dyes – 8292P
thin, primers, adhesives faster drying – 3556P
ultraviolet-curables
—application/curing – 5097
—coatings/inks over – 5430
Filter Paper
See paper (filter)
Filters
combination, with pumps, media/pumps selection – 6627
fabric, dusts collection, calculations – 583
for paints
—detachable strainers – 5887P
—stainless steel wire – 8354
proprietary
—& associated equipment – 6623
—exhibitions (German) – 6205
spray booths, ventilation, cleaning/changing – 315
used, ignition (spontaneous) – 5359
Filtration
cakes permeability, flocculation/residence time effects – 2615
cellulose derivatives – 9188P
dusts, electrical fields/corona discharge effects – 7454
dusts removal, pollution control – 7803
electrical fields/ultrasonics & – 3428
equations/experiments – 4255
equipment/materials, liquids/air, developments – 298
filter cake washing, factors – 2621
micro-, into fibres (hollow), cross-flow – 588
paints
— 298
—spraying – 1035
pigments content determination – 2233
residues, handling – 5855
sulphate process – 7248P
Fineness Testing
pigments dispersion & – 5593
Fingerprints
resistance to, coatings for stainless – 4347P
Finishing
See also industrial finishing
appliances, pretreatment/primers/topcoats etc – 318
automobiles, equipment etc – 310
contract, metals, functions/influences/outside forces – 8836
definitions – 7223
directories (German) – 6366
doors (steel), requirements/application/compliance – 3445
equipment
—handling equipment (proprietary) – 4260
—manufacturers (UK) – 7900
innovation, technology suppliers – 8832
of metals, handbooks/directories – 4798
power conversion systems for, automation – 5875
respiratory protection – 7009
selection, expert systems – 3074
Fire
chemical industry, risk reduction/alarms etc – 7773
combustion products (org), hazards – 7027
flame spread, theory – 542
precautions, codes of practice – 4765
products, hydrogen chloride, toxicity/carbon monoxide – 1273
protection against, steel (structural) – 4789
safety, regulations (UK), & regulations limitations – 7196
smoke control, definitions, standards – 8941
solvents, precautions – 4808
testing
—EEC harmonisation, existing tests used – 3079
—jet fires – 4380
—laboratories – 9947
—small scale tests use – 542
—standards harmonisation/national tests, Europe – 2957
—steel protection materials, standards – 4785

Fire *(continued)*
tests
—furniture – 711
—standards – 5966
—standards (BS) outlines – 5591
wood, regulations (UK)/standards/behaviour/protection etc – 4383
Fire Hazards
aerosols
—chlorofluorocarbons replacement – 6188
—storage/display & – 7028
aniline – 4588
assessment, laboratories – 9947
diacetone alcohol – 4590
dioxane – 4589, 8710
flame-retardant coatings/painted substrates – 4386, 6782
formals – 7018
furniture – 711
heptane – 2083
isooctane – 7017
isophorone – 4591
paint industry materials – 4800
plastics, fire retardants, toxicity/smoke/escape times – 4568
polyvinyl chloride – 6173, 6184
products toxicity – 6190
solvents
— 2245
—various – 7221
trichloroethane – 4575
Fire Precautions Act 1971
codes of practice – 4765
guide – 9981
Fire Research Station
laboratories, at Cardington, fire etc testing – 9947
Fire Resistance
acrylics, fillers (coated) – 4832P
concrete (vermiculite)/steel (structural) – 4378
conductive coatings – 6837P
glycidyl copolymers (modified)/halogenated monomers – 438P
intumescent coatings, testing/chemistry/specifications/application – 3550
paint strippers, hydrocarbons (halogenated)/oxygenated – 9397P
phosphine oxides (amino) polymers – 5965
polyamides, phosphonates groups – 1836P
polyamides (fluorinated) – 931P
polyesters (fluorinated) – 930P
powder coatings, epoxies/phosphorus – 5188P
steel (structural), books/proprietary products – 4789
Fire Retardance
dispersions (aq), antimony oxide (condensed) sols – 1834P
graft copolymers, polyolefins (halogenated)/carboxylics – 5191P
wood preservatives
—carbonates/borates – 3531P
—lanthanide derivatives – 2741P
Fire Retardants
aluminium hydroxide/calcium borate – 8483P
for polymers, mechanisms/evaluation, review – 2745
for wood/plywood, substrates comparison – 9540
phosphorus, optional microencapsulation – 5188P
plastics, fires, toxicity/smoke/escape times – 4568
thermal degradation presence – 4557
Fire-resistant Coatings
basalt/ceramics, powders/fibres – 6785P
for steel, primers use, for/against – 1830
for wood, action/(clear & covering)/application – 6777
formulation/testing/application – 7589
military equipment, review – 1831
novolacs fibres – 9539
pyrolysis products – 9673
reasons/testing etc – 4387, 6783
recommendations, quality control/application/ageing tests etc – 4379
ships (naval), review – 1831
water-borne, proprietary, & uses – 6778
water-glass/rock (expandable) – 6788P
Fires
acrylics, products – 8635
case histories/coatings behaviour – 4381
electrical equipment, avoidance – 1103P
fighting, solvents/paints materials – 7764
fire-fighters, medical examinations before/after – 5346
fluoropolymers, toxic products – 7013
plants (chemical), damage assessment/evaluation – 2618, 3422
plastics, combustion products, corrosion – 3775
printing inks manufacturers (UK) – 2067
railways (underground)
—escalators/King's Cross – 1390
—escalators/King's Cross/cyanides – 5354
ships (naval), & flame-retardant coatings – 8480
statistics (UK), costs/causes/industries etc – 1270
toxic hazards, testing, small-scale/integrated approaches – 4579
warehouses, regulations (UK) – 3080
wire coatings, dripping resistance – 7586P
Fish
organo-tins in, determination/speciation – 6087
Fish Oils
flavours/odours – 8999
statistics – 661
Fishing Nets
antifouling compositions for – 426P, 1815P, 2736P, 3532P, 5952P, 5953P, 5958P, 5959P, 5960P, 5961P, 7585P, 8460P, 8463P, 8464P, 8475P
Fixing
biocides, building materials & – 5171P
Flaking
– 1779
Flame Retardance
diisocyanates products, with carboxylics/anhydrides – 7351P
epoxies, glycidyl ethers (halogenated) & – 3548
epoxy/amine adducts, from phosphine oxides – 9541
ethylene/propylene copolymers (chlorinated) – 160P
insulation (acoustic) – 5849P
mastics (water-borne) – 9328P
phosphazenes (unsatd, fluorinated) copolymers – 1106
polyesters (unsatd), from bisphenols (halogenated) – 8082
polyethers (halogenated) – 1604P
polyurethane coatings – 1111P
polyurethane foam/coatings, over concrete – 5193P
polyurethanes, synthesis presence acidics/basics products – 2746P

Flame Retardance *(continued)*
powder coatings, polyolefins/retardants/soaps – 2749P
sealers (radiation-curable) – 3838P
wire coatings, fluoropolymers – 7586P
wood preservatives – 7584P
Flame Retardants
aluminium sulphate & melamine/ureas – 437P
blooming resistance, organo-phosphorus – 1112P
dianhydrides/functional stabilisers products – 9045P
diphenyl ether (brominated)
—synthesis – 8484P
—thermal degradation – 9542
electrical insulation, electron beam-curables – 5184
for polycarbonates – 1110P
for wood
—incorporation/painting over – 4388
—phosphonium/melamine/nitrogen-containing – 1832P, 1833P
magnesium hydroxide, powders (treated) – 5971P
manufacture, plans – 7862
melamine phosphates, comparison others – 6780
microcapsules – 8036P
phosphites/unsatd compounds products – 436
phosphonates, from bisphenols (chlorinated) etc – 3549
phosphorus (red), techniques/handling/encapsulation – 6784
polyethers (brominated), effects – 5677
polyphenylenes (halogenated) – 5190P
powders, oxides, conductivity (electrical) – 7591P
rhodium complexes
—phosphine ligands – 5189
—phosphine ligands, mechanisms – 5967
sulphonates, for polycarbonates, mechanisms – 1829
wallcoverings – 1835P
Flame Spraying
See spraying (flame)
Flame-retardant Adhesives
See adhesives & hot-melt adhesives
Flame-retardant Coatings
See also intumescent coatings – 4381
alkyds (chlorinated) – 435
cables/wires, fungi control & – 430P
epoxies, mercaptans on oxides – 7590P
film formers (phosphorus-containing)/silanes – 3551P
fires, railways (underground)/King's Cross – 1390
flame retardants/silicic acid composites – 9543P
for wood
— 4383
—testing methods – 1107
performance/substrates improvement – 5966
polymers (phosphonium-containing) – 6786P
polymers (phosphorus-containing)/silanes – 4391P
regulations/BS standards/previous paints etc – 4386, 6782
ships (naval) – 8480
standards, why no BS – 4384
thermosetting, phosphonium/nitrogen compound/heteroatom products – 3552P
water-borne
—for plastics – 8481
—oxides/silicates/aluminates/phosphates – 8481
—polymers (phosphorus-containing)/silanes – 4391P
—vinylidene chloride copolymers – 4389P, 4390P
wires
—imides/siloxanes products – 6771P
—polyolefins/magnesium hydroxide – 2747P
Flames
pretreatment with, plastics – 2628
Flammability
aerosols – 7028, 7029
ignition (spontaneous), on surfaces (hot), factors – 8707
polymers, plasma treatment – 2330
reduction
—coatings, polyethylene (chlorosulphonated) – 7562P
—nitrocellulose (modified), lacquers – 5192P
solvents – 4788
toys, requirements/testing – 8945
Flammable Atmospheres
See also explosive atmospheres
Flammable Gases
See also flammable atmospheres & combustible gases
ignition, sources, sparks/hot surfaces – 2053
Flammable Liquids
drums &, filling/electricity (static) – 2057
drums (plastic) &, electricity (static) – 2106
regulations (German) – 7210
storage, combustible &, US codes – 4628, 5398
Flash Photolysis
polyurethanes/model compounds – 887
Flash Point
determination, rapid equilibrium methods – 6348
petroleum fractions, modification by chlorofluorocarbons – 1496P
solvent blends, prediction/UNIFAC – 1266
spills, elevation by treatment – 1283P
Flash Rusting
blasting (wet), before coatings, studies – 2695
corrosion inhibitors – 2682
Flatting Agents
See also matting agents
Flavenoids
corrosion inhibitors – 1797P
Fletcher Challenge
divestments, of Fletcher Titanium assets – 6316
Fletcher Titanium Products
sale of, assets – 6316
Flexibilisers
castor oil, for epoxies, co-initiators action – 8077
diluents (reactive), glycidyl ethers – 5447
for epoxies, polymers/glycidyl ethers – 4087P
polyols, for epoxies – 2391
polyurethanes, for epoxies, kinetics/morphology – 8080
reactive, acrylates – 3989P
Flexibility
alkyds/formaldehyde resins – 4152P
coatings
—defects &, aircraft – 6804
—epoxy phosphates effects – 8510
coil coatings, warm forming for – 5985
conductive coatings – 6003P
cyclohexanone polymers, unmodified/modified – 4910
determination, bitumens/aggregates – 8171
epoxies
— 3264P, 4940P, 4941P
—curing agents & – 6443
epoxies (aliphatic, aromatic-modified) – 2392
epoxies (modified) – 9101P

Flexibility *(continued)*
heat-curables, macromonomers copolymers – 6795P
high-solids coatings, siloxanes (unsatd) copolymers – 5776P
polyamines (unsatd) – 5758P
polyimides (aromatic) – 904P
polymers (self-crosslinkable) – 2366P
polyurethanes – 173P
powder coatings
—acrylics/polyesters products – 1688P
—polyesters – 3364P
primers, temp (low) – 469P
radiation-curables – 7098P
temperature (low), polyurethanes – 869P
ultraviolet-curables, polyisobutene (unsatd) – 7077
urethanes, hydroxyl groups (blocked) – 5752P
water-bornes, pigments (polymeric) – 952P
Flexible Coatings
acrylics (cross-linked, non-gelled) – 856P
acrylics (hydroxylated)/polyesters (hydroxylated) – 6832P
electrocoating (cathodic) – 6556P
epoxies – 5729P
epoxies (modified), by amino acids – 2544
epoxy/polyesters – 126P
polyester-urethanes – 6843P, 6845P
polyesterurethane-ureas – 460P
polyether acrylates polymers – 3268P
siloxanes (unsatd) copolymers – 3488P
siloxanes/fluoropolymers – 3490P
xylylene diisocyanate derivatives – 1652P
Flexible Substrates
See also flexible coatings & flexibility
Flexographic Inks
See 'printing inks, flexographic'
Flocculants
polymers, from ammonium (quaternary) – 1509P
polyvinyl alcohol (modified) – 6467P
Flocculation
coacervation & – 7745
colloids, by polymers, modelling – 8678
degree, infrared scattering & – 5317
dispersions, associating polymers/theory – 6156
filtration &, cakes permeability – 2615
latices
—cluster size distribution/time/pH etc – 2041
—microwave spectrometry – 3717
latices (stabilised), depletion layers/polyelectrolytes addition – 2932
mechanisms/control, pigments blends/single flocculating – 8183
particles, by polymers, modelling/bridging – 6990
pigments, determination/opacity loss – 6858
resistance
—pigment compsns – 8985P
—pigments (org) – 3962
—screening for – 1261
Flooding
factors – 8183
high-solids coatings, streaking &, factors – 2523
Floors
adhesives
—coumarone/indene resins etc – 8282P
—labelling/certification – 8950
—solvent-bornes replacement, & low solvent – 8255
—standards – 9997
asphalts/polyols, emulsions – 8172P
bituminous coatings, terracotta simulation – 6817P
ceramics, anti-slip coatings, transparency – 9596P
coatings
—epoxies (modified) – 1882P
—maintenance, planning etc/guidelines – 7470
—polyesters (unsatd)/styrene/acrylates – 2775P
—pretreatment/application/properties etc – 8511
concrete
—coatings, conditions/types recommendations – 450
—coatings, epoxies (modified) – 1882P
—maintenance painting – 7470
—pretreatment – 5100, 7472
—pretreatment, membranes removal/surfaces etching – 8372P
—primers before polyurethanes – 452
coverings, coatings/wear layers – 1138P
heat-curables, resins/aggregates, aggregates over – 457P
metallic effect, coatings, epoxies etc – 6840P
methyl methacrylate, advantages/UK market/causes – 5844
plants (chemical), coatings – 4416
polishes
—acrylics etc – 9626P
—history/performance – 9325
—maleic copolymers – 9114P, 9115P
releasing compositions/drying control – 3354P
sealers, alkyd/urea resins, formaldehyde control – 6523P
solventless coatings, epoxies/polyamine-amides – 2564
ultraviolet-curables
—abrasion etc resistance – 7829P
—removable by aq alkalis – 3862P
under-floor constructions, coatings – 9584P
water-bornes
—acrylics/urethanes – 233P
—testing – 8912
Floppy Discs
See magnetic discs
Flotation
calcium carbonate, purification – 3971P, 3972P
factors/control – 8183
overspray water wash treatment – 2974
Flow
See also rheology and viscosity-related entries
adsorption & – 8664, 8665
air, drums/emissions/exhaust hoods – 9811
coatings, visualisation, X-rays radiography – 6042
colloids, shear/light scattering – 2833
drag, reduction, xanthan gum, purification/salts effects – 3616
drag-reducing coatings – 4445P
enhancement, pressure oscillations/superimposed waves – 3634
fibres (milled), shear &, size/shape – 3635
films, visualisation, bubbles/dyes etc – 6040
flow point, determination, pigments/vehicles – 6341
measurement, methods – 9639
metering, two/several phase flow – 5261
meters
—directories/new products – 8577
—turbine, design characteristics/advantages – 8326
mills (two roll) – 5077
nacreous pigments, treatment – 3121P
pneumatic, powders, flow meters (on-line) – 3637

Flow *(continued)*
polarimetry & – 6854
polymers solution, broadening, diffusion, MW by – 3670
powders, models (empirical) fitting – 3637
rates, antifoulings &, effectiveness/service life – 7563
roller coating, modelling/experiment – 5090
suspensions
—structure induction – 3617
—structure induction, light scattering – 3628
thin films, rotating, theory – 3630
Flow Coating
partial immersion, equipment, lower portions coating – 4292P
Flow Control Agents
anticorrosive coatings, role/types – 7282
cellulose derivatives, hardness & – 9564P
clays (modified), dispersion/gelation/activators/de-gelation – 2829
electrocoating, edges/stoving/thinning avoidance – 9235P
emulsion polymers, large – 4891P
gel-forming resins (proprietary), & rheology – 493
maleic anhydride polymers – 9046P
metallic finishes, NADs – 9211P
microgels (cross-linked), electrocoating – 2557P
microparticles, polyester-urethanes – 6415P
microparticles (cross-linked) – 5787P
NADs – 9210P
polyamides
—monocarboxylics (modified) – 2312P
—monocarboxylics capping – 1515P
polysaccharides (microbial) – 4986
powder coatings – 9046P
proprietary, acrylics – 8206
silica (amorphous) flatting agents as – 5245P
silica (fumed), hydrophobicity – 9025
siloxanes powders – 4985P
siloxanes/polyethers copolymers (modified) – 62P
water-bornes
—colloids (protective) etc & – 3149P
—phenolics – 3275P
Flow Cups
calibration, importance – 6872
printing inks, cups comparison etc – 1187
Flow Injection Analysis
ammonia/ammonium in air – 1225
automation, computers – 9698
calcium, AAS &, interferences avoidance – 5277
confluent mixing/knotted reactors/linear – 7656
detectors, low cost – 5293
features – 3702
modelling – 1214
peaks broadening – 3658
sensors, waveguides/evanescent wave effects – 1198
solvent extraction, extraction rates – 4511, 4512
Flow Time
determination
—cups calibration, oils/methods – 2826
—DIN cup – 6345
Flue Gas Desulphurisation
See scrubbers (flue gases)
Fluidisation
powders, factors/cohesive forces minimisation – 7746
Fluidised Beds
attrition – 3415
coatings, weathering (natural) – 1773
furnaces, abrasives (used) detoxification – 7056
heat exchange, with immersed, particles velocities – 4268
hoppers, powder coatings delivery for spraying – 9383P
overflow, discs &, powder coatings application – 6652
paint stripping – 7515
powder coatings
—particle size – 1682P
—viscosity/density determination – 6639
powder coatings powders treatment – 5200
solid/liquid, bed expansion – 3741
stripping by, pyrolysis products combustion – 5893
titanium dioxide treatment – 4847P
Fluids
See also liquids
Fluoborates
curing accelerators, for epoxies – 1573P
salts, with organic N-containing, water-insoluble – 1820P
Fluorans
colour formers – 4239P
photopolymerisables, monomers etc & – 610P
Fluorenes
amino groups, curing agents, adhesives (epoxy) – 999P
derivatives, glycidyl ethers – 870P
products, with azido aldehydes – 615P
unsaturated, amino groups – 4953
Fluorenone
oximes, styrenesulphonates of, polymers – 3812
Fluorescein
derivatives
—photoinitiators – 9838
—photoresists – 9891P
Fluorescence
See also atomic fluorescence spectrometry
book chapters – 1447
curing monitoring – 1199
diisocyanates/butanol reaction – 1235
fluctuations, MWD determination – 9707
oxadiazoles (unsatd) copolymers – 9125
phthalocyanines – 7958
polymers systems, spectroscopy – 1912
pyrene, presence acrylics, pH – 6149
quenching
—block copolymers micelles – 1253
—particle size distribution – 5341
—polymers miscibility studies – 4483
techniques/polymers studies, review – 5280
transparent coatings, quality control etc – 6672P
Fluorescence Spectroscopy
benzotriazole
—derivatives – 6955
—phenol groups, polyfunctional – 6956
excitation (two-step), lead in water – 1215
latices, polystyrene/probes – 7302
microanalysis, colourants – 5286
polyelectrolytes/anions interactions – 6051
polyimides, molecular aggregation, no probes – 6916
polymers
— 5280
—review – 6888
polymers systems – 1912
reflectance, internal, total, adsorption/interfaces – 4495

Fluorescent Coatings
europium/terbium chelates – 1139P
manufacturers (Swiss) – 6321
Fluorescent Dyes
daylight, powder coatings – 7406
road marking compsns, snow-covered roads – 9612P
Fluorescent Materials
spectrometry (reflectance), D65 illumination – 2805
Fluorescent Pigments
daylight, book chapters – 3955
India, types/manufacturers – 8964
proprietary – 1453
Fluorides
ions
—conversion coatings for titanium – 5889P
—conversion coatings, for titanium etc – 4289P
Fluorine
reaction, with polyethylene surfaces – 4901
Fluoroacrylates
copolymers, curables – 3279P
of tricyclodecanes – 8007P
Fluorocarbons
brominated, production levels/consumption, EEC directives – 1387
curing agents, for epoxies – 4948P
halogenated, plasma, etching/deposition – 3446
regulations (US) – 9974
resistance to
—adhesives (epoxy) – 9259P
—impregnation varnishes – 9533P
segmented, transitions/phase diagrams/light scattering – 1262
unsaturated
—copolymers with amides (unsatd) – 1619P
—polymerisation – 2437
—radiation-curables, acrylics (unsatd) & – 617P
Fluorophosphates
curing accelerators, for epoxies – 1573P
wood preservatives – 3533P
Fluoropolymers
adhesion, methods – 8580
adhesives for, curing agents/substrates interactions – 7419
anticorrosives
— 9494P
—carbon (activated) layers sandwiched – 2700P
—iron oxide/curing agents & – 6743P
—stainless steel powders & – 1801P
antifouling paints – 9510
antioxidants/hydrogen fluoride absorbers & – 3147
antistatic coatings, fibres (coated) & – 3581P
blends
—coatings for pipes – 6822P
—crystallinity/Tg – 5734
carboxylated, dispersants (polymeric) – 7392P
coatings
—acrylics &, low pigmented on high – 9200P
—by vapour deposition – 4283P
—developments – 1360
—etching by oxygen (atomic) – 9756
—for glass, dicarboxylics & – 5250P
—for reactive surfaces formed under liquids – 6664P
—for stone – 1788P
—infrared emission – 8521P
—mineral spirits & – 1858P
—on vinyl chloride on adhesives on metals – 6751P
—pigmented then unpigmented, friction (low) – 5243P
—polyether-imides & – 6775P
—silyl isocyanates & – 5225P
—solubility parameters/phase separation – 3497P
—spray booths etc, paints not adhere/dusts – 8365P
—uses – 8505
—vinyl ethers/functional comonomers – 2439P
copolymers, acrylics & – 4952P
curable compsns, polymers (carboxylated)/epoxy compounds & – 2776P
curables
—coatings, siloxanes (reactive) & – 3490P
—cross-linking agents/fluorinated solvents & – 9199P
—organo-silicon isocyanates & – 210P
—properties/compatibility/weathering etc – 883
—vinyl ethers comonomers/cross-linking groups – 1840P
dispersions
—acrylics/mica/aluminium flakes & – 1143P
—in fluoropolymers solutions – 6822P
—low MW, from fluoropolymers fluorination – 5771P
electrocoating – 954P
electron beam-curables, titanium dioxide/accelerators & – 6225P
epoxies/polymers (basic) etc & – 1601P
from dioxoles (fluorinated) – 7264P
from fluoro-olefins/macromonomer polyesters – 8120P
from fluoro-olefins/vinyl ethers (fluorinated) – 9199P
from vinyl ethers (fluorinated) – 4949P
grafting, with trifluorostyrene – 7333
heat-resistant coatings, polyether-sulphones & – 1872P
hydroxylated
—carboxylated, coatings, acrylics & – 8428P
—coatings, curing agents etc & – 5177P
—coatings, stain resistance – 6744P
—products unsatd carboxylics, radiation-curables – 9850P
—transparent coatings, curing agents & – 8523P
infrared spectroscopy (far) – 4507
interpenetrating networks, porous microstructure – 86P
linings, tanks – 2707P
lubricating coatings, polyolefins/epoxies & – 1154P
markets/producers/uses/properties/types etc – 6285
metallic finishes, aluminium simulation – 4426P
MW, reduction, heating with gases/precipitation products from gases – 4158P
NADs, below two micrometres – 4158P
organo-silicon (hydrolysable) comonomers – 1160P
particles
—abrasion-resistant coatings, in two layers sizes – 5238P
—anticorrosives, scratch resistance etc – 1088P
—soft-feel/scratch resistance – 9594P
photocurables, acrylates (fluorinated) & – 4659P
polymerisation presence
—NADs – 1866P, 1867P, 1868P
—organosols from products – 5846P
powder coatings
—acrylics & – 3361P
—properties/uses – 1678

Fluoropolymers *(continued)*
powders, lubricating coatings – 8539P
powders (coated), by polymers (carboxylated) – 7335P
powders (ultrafine) – 1503
proprietary, coatings, vehicles (motor) – 3571
pyrolysis, presence fluorination, low MW polymers from gases – 5771P
silyl groups
—coatings – 9587P
—curables – 4151P
solid, from solutions, via casting – 2438P
surfaces
—grafting on – 340P
—modification/characterisation, review – 7497
suspensions, in epoxies, adhesion – 1863P
synthesis
— 2437
—emulsion polymerisation (inverse) – 3196P
—presence acid reactives – 2439P
transparent coatings
—over transparent – 4331P
—over/under melamine/antioxidants – 5179P
treatment with, stone – 8412
unsaturated, radiation-curables – 7083P
water repellency etc, acrylics/fluorinated & – 1785P
weather resistance – 9480P
wire coatings
—cyclic units (main chain) – 5185P
—flame retardance etc – 7586P
—polyether-imides (aromatic) & – 9536P, 9537P
Fluosilicates
silicate paints, corrosion resistance – 3478
waterproofing – 6732
Fluosilicic Acid
treatment with, after silanes, silica layers – 9561P
Foaming
control
—adhesives – 8262
—coatings, epoxies/silicones – 9620P
dispersions (aq), low – 9234P
moisture-curables, avoidance – 5852P
paper coatings, viscosity importance – 2752
Foams
See also polyaphrons
epoxy silicates – 4129P
plastics
—antistatic coatings – 6798P
—metallisation, clear coats (coloured) – 2754P
—polyurethane coatings – 3553
polymers
—water uptake – 2022
—water-bornes for – 1847P
water-bornes, for plastics (reinforced), collapse/smooth coatings – 9565P
Foetuses
cadmium, maternal exposure, rats – 9776
glycidyl ethers – 2947
problems, paternal occupations – 7767
solvents, neurotoxicity, children from – 6180
styrene/metabolites, autoradiography – 7763
Foils
See also aluminium foil & metals (foils)
water-bornes (two-pack), acrylics etc, one coat – 6558P
Food
cans
—aluminium alloys/epoxies – 7604
—coatings – 470P
—regulations (Italian) – 3923
—spin necking, coatings etc tolerant to – 3572
—ultraviolet-curables components transfer – 5407
contact, regulations (US/Europe) – 3096
containers
—closures, primers/topcoats formulation – 9575
—coatings durable minus one hundred and eighty deg C – 8555P
—coatings, epoxies/curing agents – 4066P
—corrosion – 3477
equipment, meat/dairy, anticorrosives – 8422
industry
—coatings, types/limitations/water-bornes advantages – 5989
—painting, precautions/advice – 5988
—paints (proprietary), various purposes – 2760
—paints types/suitability/hazards/drying – 5988
—water-bornes, epoxies – 9215
packaging
—adhesives (water-borne) – 6587P
—adhesives/coatings, regulations (US) – 2220
—overprint varnishes (ultraviolet-curable) – 9827
—primers for aluminium – 6756P
paper coatings, labelling paper – 9560P
perishable, packaging, coatings etc, ascorbic acid etc – 2553P
plants, coatings, guidelines/proprietary – 7602
printing inks for, edibility – 1005P
processing, coatings, types/advantages/limitations – 5992
Foots
See drying oils, linseed oil etc
Ford Cup
– 8888
Ford Motor Co
Europe, laboratories/responses to trends – 9953
Forensic Analysis
GC, waxes/greases – 4492
infrared spectroscopy (near)/microscopy – 9717
paints, methods – 2852
paints etc, techniques – 9689
review – 7654
Fork-lift Trucks
proprietary, braking systems – 7443
Formaldehyde
adhesives, plants (planned) – 7894
adsorption, on dusts – 4564
analysis, in water, pyridine/methanol, components – 3667
carcinogenicity
— 2110
—nasal mucosa damage contribution – 4610
condensates
—with cashew nutshell liquid etc – 3159P
—with dicyandiamide – 3355P
—with ketones – 2422P
detection, at ppb, spectroscopy (photoacoustic) – 3655
determination
—in amino resins, bound hydrolysis – 6954
—solutions standardisation – 1204
emissions
—alkyd/urea resins, compounds against – 6523P
—board, barrier coatings testing – 4415
—coatings, factors effects – 2762
—determination, interferences – 2861
—from materials, chamber methods – 6202
—low, acrylamide copolymers (modified) – 8092
—low, acrylics/formaldehyde resins etc – 1662P

Formaldehyde *(continued)*
—reduction, melamine resins (proprietary) – 8191
exposure
—airways narrowing – 9763
—low, blood levels & – 2063
—noses, mucosa – 2070
—past, estimation now – 4604
—solvents &, respiratory systems – 9779
—wood dusts/phenolics – 1274
free
—alkyd/urea resins, compounds against – 6523P
—in amino resins, determination – 4956
—reduction, flame-retardant coatings – 3552P
health hazards – 1398
inhalation
—asthmatics & – 2963
—noses – 2969
levels, buildings (domestic), complaint-free – 4620
monitoring (personal), sodium bisulphite/silica gel tubes – 1205
oligomers, MWD equilibria in water/solvents – 1229
products
—with epoxies, cans coatings – 1150P
—with polyether-amines – 9139P
reaction, with bisphenol A/melamine – 2444
regulations (US), implications – 1398
reproductive systems – 2058
respiratory systems
—alone/with wood dusts – 2078
—solvents & – 6168
sampling
— 7673
—samplers (passive) – 4516
synthesis, plants (new), Canada – 4727
teratogenicity – 2058
toxicity, review – 4582
toxicology
— 3235, 6183
—chromosomes aberrations studies – 5362
—drinking water route – 5381
toxicology/metabolism etc – 2953
waste water, treatment – 5389
Formaldehyde Resins
adhesives, for wood – 4207
fast-drying coatings, alkyds & – 4152P
from indene coumarin fractions – 7326P
Formals
hazards/safety/regulations – 7018
Formamides
unsaturated, polymers, layers on sheets – 9317P
Formic Acid
activators, paint strippers – 2650P
reaction, with steel, products/oxides layers – 1764
Forming
anticorrosives, epoxies/silica – 8441P
coatings tolerant to
— 407P, 2802P, 4443P, 6756P
—cans – 4449P
—for aluminium – 1143P
coatings with marking resistance – 1514P
lubricating coatings
— 1154P
—corrosion inhibitors etc – 3499P
phosphate coatings – 9341
plastics, antistatics (radiation-curables) – 5429
steel (coated), polyesters/methylolated – 9504P
steel (metal-coated)/epoxies, tolerance – 6752P
Formulated Resins Inc
acquisition, by TAAC International – 7890

Formulation
adhesives
—block copolymers – 8248
—polychloroprene/adhesion promoters – 5813
—polyurethanes – 992
adhesives (hot-melt)
— 986
—binders (proprietary)/water-soluble – 8260
adhesives/sealants, polyurethanes – 266
alkyds, sunflower oil – 4060
anticorrosive pigments
—ion exchange – 364, 758
—tripolyphosphates (modified) – 6713
anticorrosives, data analysis/experimental design – 2668
anticorrosives (radiation-curable) – 7519
anticorrosives (water-borne) – 2673
barrier coatings – 5145
calculations – 4989
cementitious coatings – 936
coatings
—acrylics (proprietary) – 3574
—containers closures – 9575
—for solar energy collectors – 2763
—pigments mixtures – 7370
computers
— 2520, 3336, 4700
—databases/formulation/calculations – 4148
—paint manufacturers & – 4145
—properties/recursion – 1647
—simulation techniques – 2521
condensation polymerisation, computers – 2347
CPVC, pigment blends, prediction/screening – 2918
decorative effects, wood/marble effects – 320
electrical insulation, electron beam-curables – 5184
emulsion paints
—hiding powder – 2810
—latices (lobed) – 2548
—pigments/fillers – 7725
emulsion paints (gloss), acrylics – 8206
epoxies
— 7312
—solventless/high-solids/powder coatings – 976
epoxies/lignin derivatives adducts – 1564
epoxies/mercaptans – 842
epoxy/polyamides – 6687
epoxy/polysulphides – 195
gel coats – 6807
hammered finishes – 5220
hiding power, titanium dioxide/extenders – 2806
high-solids coatings
— 208, 2526
—alkyds – 4995
intumescent coatings – 4377, 6779
lubricating coatings
— 4798
—fluoropolymers – 1130
maintenance paints
—solvent blends – 5638
—vinyl polymers – 9426
maintenance paints (high-solids) – 7557
maintenance paints (water-borne) – 7517
paints, marketing &, world differences – 6286
paper coatings, styrene/butadiene copolymers – 4401
pigment compsns & – 2512
polyesters (hydroxylated), calculations/equations – 2396

Formulation *(continued)*
polymers, plants automation – 5856
polyurethane coatings
—furniture, cellulose esters & – 5213
—pigments blends – 2918
powder coatings, epoxies – 7407
pressure-sensitive adhesives
—experimental design – 268, 3376
—mechanical testing – 5045
—temp (low) – 9254
pressure-sensitive adhesives (radiation-curable) – 3805
printing inks (metallic) – 7233
printing inks (screen), plastisols – 2590
regression coefficients/computers/fewer experiments – 2809
road marking compsns – 7607
sealants, plasticisers, phthalates – 1020
silica – 3109
silicate paints – 222
solvent blends, trichloroethane – 5638
solvents, computers – 2291, 4148
stresses (internal) determination as aid – 9645
titanium dioxide, content, hiding power/total costs ratio – 5769
ultraviolet-curables
— 5436
—radiometers use – 7807
vinyl polymers systems – 205
water-bornes (high-solids), urea resins – 7389
waterproof coatings, optimisation/statistical analysis – 2515
wollastonite (treated) – 3959
Fouling
See also antifoulants & antifouling entries
algae (marine) review – 1808
bacteria, growth/reproduction at surfaces – 416
concrete (reinforced), corrosion & – 7539
conferences, biodegradation etc &, papers – 3953
control
— 9418
—chlorine/bromides – 9525P
—coatings on metals (sprayed) on particles/resins – 8461P
—coatings/membranes, organism triggered – 9523P
—copper ions/chloride ions release – 6767P
—electrolysis/impressed current – 6761
—gel coats, copper powders – 5962P
—ions release/currents application – 6767P
—limpets for – 9518
—methods, review – 3519
corrosion rates & – 6727
micro, effects on antifoulings – 3516
mussels, environmental conditions/substrates – 414
of metals, corrosion close to – 5908
problems – 7567
sea-anemones, force/secretions – 420
testing, cages below offshore structures – 2733
Fouling Organisms
adhesion – 3505
barnacles, larvae, light & – 4360
conference papers – 7934
growth/species, steel v plastics substrates – 5950
on antifoulings, thickness/species microfouling – 3529
Fountain Solutions
emulsification, inks &, pH/surfactants/zeta potential – 7005
Fourier Transform
See also techniques such as infrared spectroscopy
Fourier deconvolution – 4529
Fractals
polymers/gels &, review – 7714
Fractionation
– 8957
copolymers, by composition/MW – 7298
cross-, chromatography, polymers – 1941
field flow fractionation (thermal/hyperlayer) – 3666
polymers
—book chapters – 1967
—columns, solvents/temp variation – 820
siloxanes (unsatd) copolymers – 6104
tall oil – 5535
Fracture
– 1905
paint films on foils – 1897
Fragrance
See also perfumes
microcapsules, writing materials – 6611P
photocurables, cyclodextrins/perfumes – 9873P
water-bornes, coatings/inks, polyamides – 8214P
Free-radical Polymerisation
books – 3092
chain transfer, review – 2322
copolymerisation, penultimate unit effects, methods – 5673
cross-linking &, conformation rearrangement during – 3161
hydroxyalkyl acrylates/acrylic monomers – 2434P
initiators, azo/peroxides, review – 2343
kinetics, lasers (pulsed) – 9842
MWD – 2356
pressure (high), book chapters/review – 2323
reactions/examples/kinetics, review – 2325
reactivities, structural features/empirical relations – 2321
termination
—kinetics/conversion, book chapters/review – 2349
—radical/radical, book chapters – 2344
Freeman Chemicals Ltd
products – 3918
Freezing
See also temperature (low)
asbestos cement degradation, bacteria & – 1811
isocyanates/polyols premixes – 4162P
Freezing Point
See also solidification point
Free Volume
See volume (free)
Frescoes
See paintings (wall)
Friction
coefficient of, reduction by plasma polymers – 1890
low
—coatings, automobiles windows rubbers – 5236P
—metals (coated) on snow – 5243P
—polyisocyanurates (modified) – 1630P
—siloxanes/polymers products – 4130P
—wire coatings (self-bonding) – 9538P
zinc dust paints, between steel faces – 2709P
Frost Resistance
coatings, isocyanates (blocked)/polymers – 8551P

Frost Resistance *(continued)*
emulsion paints, improvement, review – 7386
water-bornes
— 951P, 9224P
—polyurethanes (carboxylated) – 230P
Fructose
autoxidation presence, effects – 42
Fuels
See also tanks
corrosion by, copper, detection – 8878
zinc/silicate paints effects on – 4328
Fumarates
copolymerisation, with vinyl acetate – 1578P
copolymers
—coatings, acrylics & – 5938P
—monolayers/multilayers, & photochemistry – 2026
—pressure-sensitive adhesives – 6596P
halogenated, glycidyl copolymers & – 438P
polymers – 3238
products, with glycidyl copolymers – 153P
Fumaric Acid
derivatives, esters/amides, polymers synthesis/properties – 3238
polyesterification, modelling – 8096
Fumaronitrile
polymerisation, through one nitrile group – 895
Fumigation
regulations (UK), codes of practice – 2226
Functional Groups
polymers, by infrared (near) – 526
Fungal Growth
buildings (domestic), dampness inspections – 3501
metals (coated), coatings hydrophobicity & – 2724
on paints, prevention – 8455
resistance to, plastics, testing methods – 1095
substrates (coated), bacteria & – 3517
wood, buildings, causes/control – 7580
Fungi
basidiomycetes, media selective for – 7566
building (domestic), species/moisture requirements – 6759
buildings, control, materials/technologies development – 7577
coatings &, colonisation, cotton mills – 3530
enzymes, lignin modification – 813
enzymes from, thickeners degradation – 3525
immobilised, wastes treatment – 8729
marine, spores attachment studies – 5947
paintings (wall), species/biodegradation abilities – 7579
paints & – 3503
preservatives (copper/chromium/arsenic), tolerance/viability/enzymes – 9509
promotion, coatings, nutrients/materials from – 9522P
resistance to
—coatings, testing, standards – 9994
—wood sidings treatment – 1056
sampling, in air, equipment/media comparison – 7581
wet rot, types/identification/control – 7564
wood (treated)
—estuarine environment – 7578
—storage, colonisation – 2727
wood preservatives biodegradation by – 5948
wood preservatives tolerance – 3507
Fungicides
See also antifungal entries, biocides & microbiocides
acrylates (substituted), phenyl/methoxy etc groups – 5955P
allenes, thiocyanates groups – 2739P
chemically-bound, benzimidazolylcarbamates – 1819P
coatings
—cables/wires – 430P
—food industry – 2760
—insecticides (contact) & – 5212
dioxolanes, chlorophenyl/triazinyl groups – 2737P
dithiocarbamates/hexahydrotriazines – 2728
film formers & – 421P
microencapsulation – 1516P
nail varnishes – 6764P
pentachlorophenyl laurate, remedial treatment – 2723
polyurethane coatings – 6763P
proprietary, Health & Safety Executive approvals – 9512
registration, USA – 8865
stilbene, substituents/structure/activity – 8452
testing
— 412
—board (proprietary) substrates – 1096
—for wood, methods, review – 1093
—laboratory/simulated field/field, review – 413
thiophene thiocyanates – 1817P
Furakawa
titanium dioxide, manufacture/grades (new) – 1365
Furan
groups, main chain, synthesis/electropolymerisation – 8156
phenolics, curing, monitoring/gel time – 3744
Furfuryl Alcohol
urea resins modified by – 2643P
Furniture
adhesives (water-borne) – 4218
coatings
—cellulose esters/polyurethanes – 5213
—hardness/time – 4468
—polyesters (unsatd)/styrene/acrylates – 2775P
epidemiology – 9783
garden
—from plastics, painting, plants – 5877
—weathering, coatings/wood damage – 1066
lacquers, manufacturers (Italian) acquisition – 7869
materials for, directories (UK)/associations – 7928
metal
—electrostatic spraying, coatings (proprietary) – 3565
—epidemiology, cancers – 9783
—transparent coatings, acrylics – 2797P
plywood, painting – 7468
polishes, alkoxides, chemical binding – 6622P
polyurethane coatings, microcapsules with isocyanates – 456P
regulations (UK), fire hazards/tests – 711
technical, powder coatings/application/ovens – 7478
ultraviolet-curables
— 5414, 5457
—paint systems/application, Italy – 5118
water-bornes
—acrylics (self-crosslinkable)/formadehyde resins etc – 1662P
—polymers (unsatd) – 8200
wooden

Furniture *(continued)*
—epidemiology, cancers – 9783
—finishes, trends/forecasts/Italy – 1852
—lacquers, tests – 8900
—polyurethane coatings, formulation – 5213
—ultraviolet curing, advantages/costs – 5109
—ultraviolet curing, plants – 5400
Fusion-bonded Coatings
See also powder coatings
cathodic disbonding, twenty-four hour tests – 8387
epoxies
—application/inspection/testing – 6992
—cathodic disbonding – 2688
—oil fields water injection – 8411
—pipes/application/quality assurance – 8350
—pipes/chromating effects – 9359
—powders ageing, suitability after, tests – 8231
—rebars – 2693, 4317, 9245, 9403
—rebars, problems – 9459
pipelines, cathodic disbonding/heat, tests – 9428

G

Galactomannan
polygalactomannans (modified), thickeners – 2508P
Gallic Acid
products, with formaldehyde – 6773P
Galstaff SpA
acquisition, by Hickson International – 7869
Galvanic Corrosion
printed circuit boards, coatings against – 1075P
Galvanised Steel
See also steel (zinc-coated), towers, & window-frames
adhesion to, factors/weathering – 7532
adhesives
—polyvinyl chloride etc, dehydrochlorination/segregation – 7414
—polyvinyl chloride, dehydrochlorination – 7415
chromating, coating simultaneous – 1046P
coatings
—electrochemical measurements interpretation – 6694
—electrochemical measurements/data interpretation – 8390
—plastisols, durability – 5900
—polyethers/adhesion promoters – 2777P
—polymers (chlorinated), carbon-chlorine splitting – 6701
—polymers/epoxy silanes/catalysts/organo-silicons – 5230P
—weathering (accelerated) – 8420
composition/structure/electrochemical behaviour – 1033
corrosion
—coatings, interfaces, SIMS – 9721
—rates, USA, California, low – 1057
—sulphur dioxide – 1057
corrosion (marine)/salt spray tests – 8380
corrosion resistance
— 2654
—mechanisms/surface films/pH – 2653
electrocoating
—weathering (accelerated) – 2667
—weathering/disbonding – 5159
electrocoating (cathodic), electrochemical measurements – 1033
painting – 2654
phosphate coatings, electrochemical measurements – 321
phosphating
—zinc phosphate – 313, 334P
—zinc phosphate, treatment before – 339P
phosphating/electrocoating (cathodic) – 2640P
pretreatment
— 1033
—phosphonic acids, then coatings – 2642P
rebars
—book chapters – 7224
—galvanised steel – 6683
roofs etc, coil coatings – 5214
spangle minimisation, adhesion/water exposure – 373
statistics, Europe/Japan/USA – 7151
welding, improvements/phosphides – 6019P
welding resistance, phosphides particles – 6754P
zinc dust paints, epoxies (linear) – 1052
Galvanised Surfaces
electropolymerisation on – 4883
Galvanising
hot-dip, advantages/cost effectiveness – 5927
Gamma-Rays
acetaldehyde/chloral copolymers &, degradation – 7080
acrylics (chlorinated)/triallyl isocyanurate & – 6482
coatings &, resistance – 5913
cross-linking, gelation/GPC/light scattering – 4566
dosimeters, labels/colour changes – 5446
exposure/dose, buildings (domestic), UK – 576
optical fibres (coated) &, mechanical degradation – 8594
polymerisation by
— 3814
—acetylenes (polyfunctional) – 8070
—diacrylates, dose/Tg – 5720
—methylstyrene copolymers – 6436
polymerisation by (solid-state) – 3160
resins &, effects – 3002
resists
—dyes absorbing – 8783P
—phenolics/sulphone systems – 3016P
sterilisation, adhesives & – 5415
Garden Furniture
See furniture (garden)
Garware Paints Ltd
history/capacity etc – 3068
Gas Chromatography
aerosols, solvent-soluble carbon fraction – 7055
amines, sampling & – 9652
butanol, in paints – 6938
butyl acrylate – 9674
butyl methacrylate – 9674
combination
—with FTIR, chromatograms reconstruction – 6894
—with FTIR, pollutants/MS/lightpipes – 1207
—with FTIR/MS, library searching – 9668
—with FTIR/MS, quantitation – 9683
—with matrix isolation/FTIR – 7661
—with supercritical, same column/temporal – 5290
cyanogen bromide, acrylonitrile determination – 8649P
dead times, calculation, computers programmes – 6910
detectors, plasma (microwave-induced) – 5291

Gas Chromatography *(continued)*
directories – 5297
emissions, from paints films – 9710
ethyl acrylate – 9718
ethylene glycol monobutyl ether, in paints – 6938
expert systems, HPLC & – 9667
fatty acid esters
—from fats, synthesis – 7255
—soyabeans – 6902
fatty acids (free), chromatograms – 7649
high resolution, waxes/greases – 4492
high-temperature, review – 8613
integrators &, inaccuracies – 7683
isophthalic acid, sampling & – 6066
lanthanides, review – 3691
methyl ethyl ketone, purity – 8904
methylene chloride – 1924
mineral spirits, aromatics in – 8911
monomers (residual) – 1216
multidimensional, combination with FTIR, oils – 5292
organo-tins, in fishes/sediments – 6087
polyesters (silicone-modified), diacids/polyols determination – 9684
propanediols/dipropylene glycol, ethers/ether acetates – 8926
raw materials, solvents, fatty acids etc – 1990
reversed-flow, polymers/solvents interactions – 7645
solvent blends evaporation – 4482
solvents
—detectors, infrared/MS sequential – 8620
—identification/computers – 8624
stationary phases, phosphates, classification – 6893
suspension polymerisation monitoring – 1599
toluene diisocyanate (free), in prepolymers – 9677
toxic gases etc, monitoring – 7679
vegetable oils, blends analysis, components/matrix inversion – 3638
volatiles (org)
—from carbon adsorption – 1427
—sampling/complex sources identification – 6900
water, in polymers etc, dehydration & – 5382
water pollutants, volatiles (org)/stripping – 8621
xylene – 8914
Gas Chromatography, Capillary
aldehydes, as oxazolidines – 1963
combination
—with AAS, organo-tins/organo-lead – 6068
—with FTIR, oxygen-18 enriched internal standards – 2884
megabore, water in solvents – 2883
oils (essential), & combined techniques – 6049
peak identification, computers/spreadsheets – 1996
triglycerides – 1942
volatiles (org)
—in water – 2000
—in water, serial detectors – 5288
Gas Chromatography, Inverse
activity coefficients measurements, alternatives to – 1971
alkyds, blends containing – 2923
automation, polymers studies – 1945
carbon fibres, coupling agents, acid/base interactions etc – 1915
epoxies (linear) – 9741
fillers, surfaces characterisation – 523
formalisms/family plots/vapour pressures etc – 1971
polyethers, monoethers – 6072
polymers
—compatibility/interactions – 2875
—cross-linking degree – 9706
—polymers/polymers interaction parameters – 1933
—single/blends/fillers/heterogeneities – 2923
—surface layers – 8638
solubility parameters – 2930
transition temperatures/solubility/cross-linking – 2843
Gas Chromatography/Mass Spectroscopy
aerosols, solvent-soluble carbon fraction – 7055
aromatics (polycyclic), in water – 3650, 3651
carboxymethylcellulose – 8633
curve resolution – 1233
MS (Fourier transform) – 6046
MS (ion trap), carboxylic acids determination – 1223
phthalocyanines – 8611
pyrolysis products, paints – 9673
reaction, amines, acylation (on-column) – 521
Gas-liquid Chromatography
See gas chromatography
Gases
See also flammable gases, toxic gases & 'gases, natural'
compressed, transport (road), codes of practice – 3929
detection, acoustic waves (surface)/pattern recognition – 3693
liquefied, tanks, coatings replacement/frozen layers removal – 9382P
monitoring – 1224
GE Carbide Silicones Inc
joint ventures, cancellation – 3903
Gel Coats
blistering, formulation & – 6807
boats – 5154
coating (in-mould), polyesters/styrene/acrylates – 5201P
copper powders, fouling control – 5962P
for plastics, spiro glycol acrylates – 5977P
treatment, before barrier coatings – 6791
Gel Effect
– 2349
acrylates, cross-linking agents & – 5710
emulsion polymerisation, methyl methacrylate – 5713
methyl methacrylate, modelling/simulation – 1556
modelling, reactors – 4055
Gel Permeation Chromatography
– 5603
acrylics (carboxylated), chain transfer agents – 2844
aqueous
—book chapters – 3099
—columns packing hydrophobicity – 6891
asphalts, composition information – 2853
book chapters – 1932
books – 3099
broadening, correction, non-recursive matrix stochastic – 1943
calibration
— 1904
—light scattering (small-angle) – 5287
calibration (universal)
—copolymers – 1901
—different viscosity equations – 6949

Gel Permeation Chromatography *(continued)*
calibration/detectors/review/computer-generated data – 9657
chromatograms, conversion to size distributions – 9079
coatings field use – 9713
combination
—with chromatography, copolymers – 3662
—with GPC etc – 1909
—with light scattering (small-angle), review – 5287
—with light scattering (small-angle, lasers) – 1958
—with light scattering, gelation – 4566
—with pyrolysis/GC, polymers – 7658
copolymers
—HPLC &, composition/MW – 5285
—peaks broadening – 1974
detectors
—viscometers (capillary/forced flow) – 1904
—viscometers, calibration/branching/impurities – 1903
detectors (multiple), signal analysis/sensitivity/errors – 1940
detectors/data acquisition/data treatment – 1982
epoxies, calibration – 6114
high-performance
—non-ideal/non-size exclusion effects, review – 1910
—polyvinyl acetate (branched) – 2002
—powder coatings components/manufacture – 7696
high-temperature, fractions collection/solvents removal – 6058
mechanisms/calibration/spreading/detectors etc, review – 1970
microcolumn, Mark-Kuhn-Houwink constants from – 6929
polymers (branched) – 7686
polystyrene, standard samples/calibration – 1952
preparative, polystyrene/epoxies – 1937
review – 1958
siloxanes, functional groups determination/MW – 1966
spreading factor, retention volume dependence – 1927
styrene/methyl methacrylate copolymers – 9699
Gel Point
diallyl phthalate, isomers/mechanisms – 5711
diallyl terephthalate/comonomers – 8085
methyl methacrylate/polyether dimethacrylates – 5712
times to
—furan phenolics, dielectric properties & – 3744
—models – 2831
—polymerisation (metathesis), extension – 4902P
Gelatin
microencapsulation by, pigments – 4829P
Gelation
See also vitrification
clays (modified) – 2829
epoxies
— 6114, 6165
—viscosity/percolation theory – 4918
mathematics/GPC/light scattering – 4566
methyl methacrylate/trimethylolpropane trimethacrylate – 6451
networks, defects/intramolecular reactions – 7292
polyesters, viscoelasticity/dynamic scaling – 8598
polymerisation, theory, review – 3190
printing inks, effects/viscosity/solids content/tack etc – 5272
styrene/divinylbenzene copolymers – 831
styrene/glycol dimethacrylates – 111
theory – 4019
time to
—intumescent coatings, polyphosphates effects – 5964
—phenolics, wood (activated) & – 5871
xanthan gum – 3739
Gellan Gum
oil paints – 944P
Gellants
polysaccharides (microbial) – 4986
solvents/resins effects – 3625
Gels
acrylics, silyl groups, electrocoating – 8217P
content, determination, polyethylene/FTIR – 9659
detection, in melts, on-line – 6142
fractals – 7714
melamine resins/sulphites/aldehydes etc – 1629P
permeability, dispersions coagulation & – 7744
suspensions, printing inks (heat-set) – 4226
titanium dioxide (hydrated) – 5621
General Decorating Suppliers
acquisition, by Manders (Holdings) – 3885
General Electric Co
joint ventures, silicones, cancellation – 3903
General Paint of Mexico
acquisition, by Akzo – 694, 3056
Germanes
polymeric
—resists – 4665P
—X-rays effects/resists – 6208
Germanium Tetrachloride
copolymerisation (alternating) presence – 8064
Gila River Products
acquisition, by Courtaulds – 7865
Glare
coatings against, cathode-ray tubes – 6815P
Glass
See also bottles & safety glass
adhesion to
—acrylic/urethanes – 4135P
—polyurethanes – 5262
—water-bornes, surfactants effects – 8607
adhesives, uses examples – 4213
adhesives (radiation-curable), & curing through – 5488P
adhesives (ultraviolet-curable)
—coupling agents – 6159
—heat resistance etc – 5401
anti-misting coatings – 468P, 7620P
antistatic coatings – 1169P
coatings
—chemical resistance – 3487P
—fluoropolymers/silyl isocyanates – 5225P
—organo-silicons/isocyanate groups – 4175P
—polyamide-imides, siloxanes groups – 2497P, 2498P
—polymers (cationic) – 828P
—polymers/dicarboxylic acids (derivatives) – 5250P
—polysulphone imides – 9631P
—scratch resistance – 7592
coatings (inorg), silica from silanes – 287P
containers from
—coatings, development/joint ventures – 5538
—labels adhesion, factors – 6873
fillers, types/anticorrosives/review – 2250

Glass *(continued)*
flakes
—anticorrosives, abrasion resistance – 1796P
—marine coatings – 4343P
—packaging with liquids, handling – 3123P
—treated with resins/coupling agents – 1476P
microspheres
—coatings, metallic effect/wear resistance – 6840P
—restoration compsns – 5232P
particles
—anti-foaming agents – 3993
—glassy colourants particles – 9298P
—road marking compsns – 1160P
photocurables, acrylates (polyfunctional) – 7081P
powders
—aspect ratio, powder coatings – 7413P
—ultraviolet-curables – 7823P
printing (screen) – 2602P
replacement, plastics (coated) – 3562P
shatter-proofing – 4018
transparent coatings
—anhydrides/amino silicon products – 6002P
—polyurethanes/siloxanes – 475P
—siloxanes etc – 462P
Glass Beads
determination, road marking compsns – 8933
dielectric properties, RH effects/packing changes (RH-induced) – 6979
treated, with catalysts, polymerisation presence – 6387P
Glass Fibres
coated, epoxies, dermatitis/fibreglass manufacture – 4586
coatings for, water-bornes – 3592P
degradation, aggressive media – 7524
electrocoating, binders & – 972P
road marking compsns (hot-melt) – 1871P
treated, FTIR/interactions with models – 2913
Glass Spheres
hollow, ultraviolet-curables – 7823P
Glass Transition
point of, by different methods – 8685
thermodynamics/kinetics, of glassy state & – 2027
Glass Transition Temperature – 1985
acrylics, hardness/hydroxyl value & – 2520
acrylics (carboxylated) – 3351P
adhesives (epoxy), fracture energy – 1190
coatings &, for wood – 6721
degrees of freedom & – 2939
determination
—DSC – 6041
—mechanical testing (dynamic)/dielectric – 3716
—methods – 5985
—polymers/plasticisers, different methods – 8685
epoxies
—curing – 6977
—curing agents/degree of cure – 4045
—curing monitoring – 7007
epoxies (cured)
— 1899
—determination/prediction – 3652
—diamines type/stoichiometry – 2408
epoxies/boron trifluoride – 4907
epoxy/novolacs, from novolacs (four-nucleii) – 9643
film-forming temp (minimum) & – 3716
fluoropolymers, blends – 5734
interpenetrating networks
— 4889
—polybutadiene/polyethers – 4021
methyl methacrylate copolymers, phase structure – 8060
MW &
— 2939
—equations/parameters – 9734
paper coatings – 6799P
polyesters, coatings, automobiles – 8542P
polyimides (silicon-modified) – 6995
polymers blends, composition &, cusps – 2005
polymethyl methacrylate, water/modelling/equations – 2038
polyphenylene oxide/siloxanes – 9738
polypropylene glycols, & MW – 539
polyquinoxalones – 5742
polyvinyl methyl ether/styrene copolymers – 540
prediction, molecular modelling – 1250
siloxanes, cyclic/linear – 6131
stresses (internal) – 1779
tackifiers – 5814
triethylene glycol dimethacrylate polymers, multiple – 5720
ultrasonics – 3746
vinylidene chloride copolymers – 1257
Glass-reinforced Plastics
See 'plastics, reinforced', 'polyesters, glass-reinforced' & polyurethanes (glass-reinforced)
Glasurit de Argentina
acquisitions by, of Lusol – 675
Glasurit SA
location changes/financial performance – 680
Glidden
industrial finishes transfer from CIL – 683
Gloss
aerosol paints, mica – 6017P
autophoretic coatings, improvement – 5013P, 5786P
camouflage coatings & – 3608
coatings, silanes/water/catalysts – 8530P
conditions necessary for, simulation – 2521
determination, equipment (proprietary) – 7444
intermediate coatings & – 4434P
low
—assessment via lightness – 6028
—printing smoothness & – 2753
measurement, equipment (proprietary) – 8687
particle board (coated), ageing & – 5931
reduction
—electrocoating – 5017P
—polymers blends, compatibility incomplete – 3615P
retention
—acrylic/melamines, chemical etc changes – 5910
—alkyds – 128P
substrates &, roughness – 3607
Gloss Paints
See also emulsion paints, moisture-curable coatings & powder coatings
alkyds, from castor oil/rosin – 120
application, DIY, methods – 2536
barium sulphate – 4814
exterior, two-coat, primer/undercoat combined – 8180
proprietary
— 7139
—self-undercoating – 7139
statistics/forecasts (UK) – 7139

Gloss Paints *(continued)*
titanium dioxide
—saving of/wetting agents – 5616
—weathering – 8386
water-borne
—properties/formulation etc – 5005
—sagging resistance, acrylics – 5027P
white, market shares (UK) – 9923
Glossaries
adhesives, terms relevant to – 9993
blasting – 9363
coatings terms, Swedish/foreign equivalents – 4805
corrosion/corrosion control – 3093
manufacturing terms – 7223
paints
—terms, French – 6337
—terms/definitions, German – 6349
paints/varnishes – 3941
smoke control – 8941
Gloves
protective, eczema – 5343
selection, expert systems – 565
Glow Discharge Polymerisation
See also plasma polymerisation
Glucosides
acrylates (polyfunctional) of, polymerisables & – 9191P
Glues
See also adhesives
standards – 1441
Glycerides
reduction, to fatty alcohols – 6397
Glycerol
See also diglycerol & polyglycerols
acrylates
—products with isocyanates etc – 3325P
—surfactants (unsatd) – 1511P
allyl ethers, derivatives, surfactants (unsatd) – 2310P
derivatives
—acrylates, photosensitive compsns – 2159P
—methallyl, surfactants (anionic) – 9036P
ethers (hydroxylated), acrylates, electron beam-curables – 5399
prices – 3045
transacetalisation, of diethoxyethylphosphonates – 3309
Glycidol
products
—with epoxy/amine adducts – 6474P
—with polyesters, powder coatings – 1684P
substituted, synthesis/isolation, optical activity – 9013P
synthesis/isolation, optical activity – 9013P
Glycidyl Acrylate
purification – 4085P
Glycidyl Compounds
adhesives, azomethines & – 2582P
amines
—curing kinetics, branching theory – 2410
—cyclisation (intramolecular) – 4909
MS – 3661
products, with amines, curing agents – 4065P
unsaturated
—grafting on silicones – 980P
—products with tetrahydronaphthylsuccinic compounds – 140P
Glycidyl Copolymers
modified
—by acrylic acid etc, curables – 151P, 152P
—by half-esters (unsatd), curables, monomers & – 153P
—unsatd, & halogenated monomers – 438P
of acenaphthalene/indene, anhydride-functional polymers & – 2419P
of lactams (unsatd) – 6585P
phosphates groups (pendent), powder coatings – 5798P
photo-crosslinking, onium & – 5413
polyesters/antimonates/brominated polystyrene & – 863P
powder coatings
—anhydrides (polymeric) & – 6578P
—unsatd monomers/curing agents & – 9250P
products, with amines – 854P
resists – 1306P
toughening agents, for epoxies – 1566
Glycidyl Esters
alkyds, from polyols etc & – 2702P
of carboxylic acids (branched)
— 132P
—reactions – 8094
of diacids (branched or phenyl-substituted) – 433P
polymerisation presence, carboxylic acids (unsatd) – 7329P
unsaturated
—grafting on polyethylene, amines reaction – 6629
—polyfunctionals by ring opening – 5643P
—products with acrylic acid – 152P
Glycidyl Ethers
amines (hindered), synthesis/NMR – 7279
dermatitis, patch tests – 4586
flexibilisers, polymers & – 4087P
from dienes/phenols products – 5729P
halogenated, synthesis/flame retardance from – 3548
of allenes (hydroxylated), synthesis/polymers – 3237
of bisphenol A
—cycloaliphatic substituted methylene – 2423P
—oligomers, synthesis/two-stage – 1565
of diphenyls, polyimides from – 6489
of rosin, acrylic/urethanes from – 4647P
of tetraphenylethane (hydroxylated), products – 3258P
photopolymerisation, iodonium salts/photosensitisers – 599
polyfunctional, epoxies etc & – 8100P
products
—with alkanolamines – 4929P
—with bisphenol A, curing agents from – 2581P
—with galactomannan, thickeners – 2508P
—with thioesters – 8159
proprietary, ultraviolet-curables, flexibilisation/rigidity – 5447
reaction, with ureas – 1681
sulphonylazide groups – 1495P
teratogenicity/embryos/foetuses – 2947
unsaturated, oligomers (unsatd), initiators (latent)/cross-linking – 5705
Glycidyl Methacrylate
copolymers, microstructure – 6073
maximum allowable concentrations – 4612
purification – 4085P
Glycidyl Polymers
grafting, with carboxylated etc – 5850P

Glycidyl Polymers *(continued)*
powder coatings (thermosetting) – 983P
Glycines
photoinitiators, cinnamoyl groups & – 7816P
resists – 2175P
substituted, chelates, cross-linking agents – 6419P
Glycolic Acid
See hydroxyacetic acid
Glycols
carboxylic acids in, FTIR – 9654
coatings, metal compounds/anhydrides & – 940P
ether acrylates, surfactants – 9038P
ethers
—phenylol, polyimides – 904P
—teratogenicity – 2109
—toxicity, case histories – 5347
—toxicity/irritancy – 2052
ethers esters, dispersants – 5067P
ethers/ether acetate, women (pregnant) – 2104
methylene type, NMR – 3667
oligomers, acrylates, copolymerisation/gelation – 111
Glycoluril Derivatives
cross-linking agents, copolymers (treated) & – 4184P
hexahydrotriazine rings (fused)
— 800P, 803P
—piperidine etc groups & – 802P
—piperidine groups & – 801P
Glycoluril-Formaldehyde Resins
– 4053
Glyoxal
polymers (ladder), from phenols (difunctional) & – 845
products, with blocking components, insolubilisers – 9566P
Goethite
See also iron oxide hydroxide & 'iron oxide, yellow'
Gold
leaf, simulation of, clear coloured over aluminium layers – 2754P
resinates, photoresists, metal films from – 8650P
Golf Balls
transparent coatings, optical brighteners – 9546P
Goodrich Co
divestments, elastomers to Zeon – 7903
vinyl chloride etc, plants sale failed – 9958
Goodyear Tire & Rubber Co
co-operation, with Ems-Chemie, polyesters/powder coatings – 3061
Gottardi SpA
acquisition, by Crosfield Chemicals – 4716
Grace Specialty Chemicals Co
silica, plants expansion – 4705
silica (fumed), plants (planned) – 1367
Graffiti
coatings against
—fires, railways (underground) – 5354
—polysaccharides, washing off – 5222
—proprietary – 2759
—strippers resistance – 7608
covering of, paints re-use for – 7793
Graft Copolymers
acrylics
—anti-misting coatings – 1312P
—weather resistance, stabilisers & – 5163P
acrylics/liquid crystals – 4908
adsorption, on mica, forces between surfaces – 4540
blends, with graft/block, mechanical properties – 2842
butadiene polymers/monomers – 950P
carboxylated, adhesion to aluminium – 3632
cellulose derivatives/organo-silicons – 1646P
dispersants (polymeric) – 4833P
divinylbenzene polymers – 2382P
elastomers/thermoplastics chains – 5821P
epoxy/polyesters
— 4428P, 7611P
—coatings – 864P
—synthesis/coatings – 939P
epoxy/urethanes with acrylics – 2552P
ethylene copolymers, coatings – 2522P
ethylene/maleic anhydride, primers before – 8751
fluorinated, antifoulings – 9528P
hydroxylated
—from glycidyl polymers/carboxylated etc – 5850P
—polybutadiene – 1549P
—polymerisation presence polymers/epoxy groups – 9068P
macromonomers – 2375P
methylpentene polymers, then halogenation – 1602P
methylstyrene polymers (brominated)/polyethers – 3183
microgels, core/shell using solvent blends – 6151
nitrile rubber/methyl methacrylate – 988
polybutadiene, photoresists – 1322P
polyesters (unsatd)/acrylates (alkoxylated) – 4182P
polyesters/monomers, powder coatings – 5035P
polyether polyols/fluoro-olefins – 6488P
polyethylene, blends with chlorinated – 6487P
polymers/carboxylated, adhesives, amines etc & – 9261P
polyolefins, epoxy compsns – 1589P
polyolefins (halogenated)/carboxylics, fire retardance – 5191P
polypropylene, dispersions in polyolefins solutions – 2530P
polypropylene (chlorinated)/polyurethanes – 6520P
polysaccharides/oxazolines – 202
polyurethanes/vinyl esters, optional hydrolysis etc – 9148P
precursors
—peroxide groups (pendent), polypropylene & – 4027P
—polypropylene/polymerised unsatd percarbonates – 4896P
radiation-curables – 8768P
silicones/acrylic monomers etc – 1639P
silicones/monomers – 980P
styrene products (vinylidene-containing)/monomers – 1550P
styrene/macromonomers – 498
synthesis
—grafting on group transfer products – 4008
—methods – 2369
—methods, review – 4025
—monomers/carbonyls/copolymers (halogenated) – 4024
—two-stage, initiators/unsatd peresters – 7299P
water-bornes, acrylics powders & – 5027P
Grafting
acrylamide, on polyethylene, corona discharge – 3442

Grafting *(continued)*
acrylates, on polypropylene, plasma – 1558
acrylic acid
—on polymers, hydrophilicity – 99
—on polyurethanes (unsatd) – 7340
acrylics, on siloxanes – 8659
alkyds, dispersibility in – 3249P
carbon black, with polymers (functional) – 4843P
cellulose derivatives
—after isocyanates (unsatd) reaction – 2509P
—then reaction caprolactones – 2509P
cyclohexyl methacrylate, on polybutadiene, kinetics/characterisation – 5709
eicosane, with anhydrides, not chains – 118
glycidyl esters, on polyethylene – 6629
hexafluoropropylene, on polyols – 5423
latices (core/shell), on seed particles – 2332
maleic anhydride, on waxes – 1553P
maleics, on ethylene/propylene copolymers – 7599P
methods, review – 4025
methyl acrylate, on polyvinyl alcohol, mechanisms/phases – 3201
on carbon black
— 4842P
—carbon black/polymers reaction – 33P
on cellulose – 4142
on ethylene copolymers – 6579P
on methylpentene polymers – 1602P
on particles (cross-linked) – 4084P
on pigments, stabilisation (steric) – 2941
on plastics, electron beams – 340P
on polypropylene – 8041
on polysaccharides, initiators, manganese(III) – 8176
on proteins – 6437P
on silica/cellulose, photoinitiators (bound) – 9834
on steel (coated) – 338P
on styrene/isoprene – 469P
plastics/particulate elastomers – 4015
polyisobutene, on silica – 2263
polymerisation (anionic) – 4895
polypropylene, with acids/anhydrides, NADs – 8194P
propylene polymers, without secondary agglomeration – 5676P
radiation (high-energy) – 3814
styrene
—on cyclohexanone resins – 6431
—on siloxanes/unsatd silanes products – 920
suspension polymerisation – 2363
to substrates, radiation curing – 8754
trifluorostyrene
—on polymers, electron beams – 7333
—on tetrafluoroethylene copolymers – 8059
vinyl acetate
—on colloids (protective) – 8078
—on emulsifiers (polymeric) – 6904
vinyl methyl ketone, on polyisoprene – 2388
vinylidene chloride etc, on polyvinyl alcohol – 9066
vinylpyrrolidone, on silica (modified) – 8123
Granite
patterns like, painting – 8368P
Granulation
drying (vacuum) – 5853, 6626
powder coatings, crushing liquid nitrogen coated – 6579P
Granyte Surface Coatings PLC
acquisition, by McLeod Russel, offers – 1381
Graphic Industry
See also printing entries
US
—concerns/forecasts – 5495
—quality process commitment programme – 7708
Graphite
coated, by nickel, conductive pigments – 7953
coatings, electromagnetic shielding – 6837P
nickel-coated, conductive pigments – 3960
primers, for stainless steel – 1801P
Gravure Inks
See 'printing inks, gravure'
Greases
GC – 4492
Grebe Group
plants, UK – 9946
structure/performance/companies – 5553
Greenhouses
condensation, sheets against – 5999P
plastics, anti-adhesion agents – 1122P
Grinding
See also comminution & milling
attritors, rotors/separator tubes – 297
blends, ultra-fine for one component – 2616
calcium sulphate
— 8974
—in suspensions without surfactants – 778P, 779P
cutting fluids, cancers etc – 1277
equipment
—recording materials manufacture – 1029P
—types/manufacturers etc – 6628
equipment (proprietary) – 7444
pigments (org), treatment during/after – 6392P
wet
—advantages/water effects/bending strength etc – 1027
—lubricants for coatings – 1828P
—media, corrosion/wear – 3418
Group Transfer Polymerisation
See polymerisation
Guanamine Resins
from cycloalkane-carboguanamines – 9272P
sealers, epoxy/novolacs & – 434P
Guanidine
cyano groups, curing agents (latent) – 9096P
derivatives, adhesives (epoxy) – 3393P, 3394P, 8283P
oligomers, cyano groups synthesis/use – 8101P
Guar Gum
modified, rheology – 1898
products, with glycidyl ethers – 2508P
Gums
See also rosin esters & various gums (dhaincha, guar, tragacanth & xanthan)
Gypsum
coatings, over latices on polyurethane foam – 5193P
pigments – 7944
suspensions (aq), zeolites/polymers etc & – 777P

H

Haematite
pigments, golden colour, manufacture – 7984P
specularite, anticorrosives/barrier effects – 7961
Halides
ions, transport by sila crown ethers – 2284

Halogenated Compounds
determination, in water, GC – 5288
emissions, monitoring, FTIR – 5301, 5302
GC, detectors, plasma (microwave-induced) – 5291
pollutants, dehalogenation – 8740
Hammered Finishes
formulation/mechanisms/application etc – 5220
proprietary, marketing, UK/Europe – 6282
Handling
asbestos, enclosures against dusts – 3931
automation, market (European)/forecasts – 1358
bags, loading, ventilation & – 5350
bulk, equipment, directories (UK) – 4257
containers (bulk, intermediate, flexible), safety – 3790
drums, systems, investment costs etc – 9826
dusts exposure & – 4616
equipment, for dip coating, automation – 2626
glass flakes, packaging with liquids – 3123P
health & safety, EEC directives (proposed) – 4751
mechanical, equipment (proprietary) – 4260
particles, attrition – 8322
phosphorus (red) – 6784
pneumatic
—design, improvement, research & – 3424
—particles, dense/dilute phases equilibria – 3421
—powders, explosions – 4605
powders
—dusts control – 8715
—dusts exposure/control – 9767
—equipment (proprietary) – 6625
—explosions – 7026
—filtration/fillers residues – 5855
—laboratories, exposure/ventilation – 5353
pumps etc, manufacturers/interviews – 5560
slurries, equipment (proprietary) – 3413
solvents (chlorinated), good practice – 5637
sulphuric acid, expert systems – 9794
Hangers
electrocoating, film thickness/bus bar potential – 8373P
electrostatic spraying, suggestions/grounding – 6645
stripping
—fluidised beds – 5893
—nitrogen (liquid) – 4293, 5130
—thermal processes, cabins – 6680
Hanson Trust
divestments, General Paint of Mexico – 694, 3056
Hanyang Chemical Industries
diisocyanates, plants (planned), BASF Group & – 5546
Harbours
polyurethane coatings – 1795P
Harcros Chemical Group
financial performance/research & development etc – 2214
Hardboard
sidings
—matt coatings/weathering – 6688
—water-bornes – 6688
Hardeners
See also curing agents
Hardman Inc
acquisition, by Harrison & Crosfield – 8846
Hardness
coatings
—lasers treatment – 1752P
—over polyesters/melamines layers – 9618P
—polyesters/silyl groups/zirconates – 9598P
—silanes (imide-containing) condensates – 9580P
—time after application – 4468
determination
—Rockwell testers – 1364
—wood panels – 4771, 4772
electron beam-curables, pigments – 1186
epoxies, modified by cured particles before curing – 2409
formulation, Tg/hydroxyl value & – 2520
moisture-curables – 4999P
plastisols, polyvinyl chloride/acrylics – 5074P
Hardwoods
Indian, penetration, penetrants/species variations – 2717
Harrison & Crosfield
financial performance/chemical activities/research etc – 2214
Harrison & Crosfield PLC
acquisitions by, of Hardman – 8846
Hazardous Materials
chemicals, exposure, consumers, regulations (US) – 9985
classification etc
—regulations (UK), amendments (proposed) – 1396
—regulations (UK), lists amendments – 1396
—regulations (UK), Northern Ireland – 5583
control, regulations (UK)/records requirements – 8862
determination/monitoring, organisations (approved) – 7916
disposal, regulations (German) – 9969
EEC directives – 5581
EEC directives (proposed) – 8850
effluents
—control, UK/environmental quality standards – 9801
—regulations (UK) – 9976
emissions, regulations (US) plans – 9974
gases, detection, acoustic waves (surface) – 3693
handling, expert systems – 9794
hazards communication, to community – 8712
information, preparation/use/users – 4764
labelling
—EEC directives – 3924
—regulations (Canadian)/WHMIS, problems – 7195
monitoring
—strategies, guidance notes – 4762
—workplace, organisations (approved, French) – 715
pumps (diaphragm) – 8321
regulations (Dutch) – 2224
regulations (European), comments/harmonisation – 9990
regulations (French)
— 715
—decrees – 7917
regulations (German) – 3933
regulations (UK)
— 731, 9971
—assessments for, guides – 2227
—awareness etc of, questionnaires – 5579
—codes of practice – 2225
—employers' responsibilities – 1389
—guidelines – 5587
—implications – 2223
—inventories – 6334
—provisions – 714

Hazardous Materials *(continued)*
regulations (US), compliance, requirements/programmes for – 9982
regulations (US)/compliance, books – 1451
reproductive systems, leave of absence/fertility – 6169
risks assessment, regulations (UK) – 3083
ships' stores, accidents – 547
spills, control/clean-up – 590P
storage/packaging/transport, regulations (German) – 9983
transport
—regulations (European)/packaging – 1399
—regulations (international) – 5578, 6206
transport (air), regulations (international) – 5586
transport (marine), Standing Advisory Committee reports – 4746
transport (road)
—codes of practice – 3929
—labelling/classification, regulations (UK) – 7205
—regulations (UK) – 8860
—regulations, UK harmonisation EEC – 4761
vehicles (motor), motor industry &, guides – 571
Hazardous Wastes
blast cleaning, recycling/treatment – 7056
containers, management/disposal – 3789
control, UK government/committee views – 8857
disposal
—EEC directives – 2222
—European situation – 8725
—to water, EEC directives/UK circulars – 7914
disposal etc, Spain, investment/regulations – 7047
emissions, remote sensing, infrared spectroscopy – 9696
incineration
— 7782
—methods/companies – 7781
—plants (planned), UK – 6199
minimisation, regulations (US), & management – 587
printing (screen), regulations (US)/options etc – 5394
printing inks returns, regulations (US) – 4624
public relations – 7849
regulations (UK), guides – 8960
storage/incineration etc – 8739
transport
—transfrontier, notification etc, regulations (UK) – 713
—transfrontier, regulations (UK) amendment – 1391
transport (transfrontier)
—EEC directives – 2222
—regulations (UK) – 7913
treatment
—hydrogenation (catalytic) – 9803
—in situ, by organisms – 9822
—solvents recovery from – 7797
Hazards
See also accidents, explosions, fire(s), health, safety, carcinogens, mutagens, teratogens, carcinogenicity, mutagenicity, teratogenicity, toxicity etc, & fire, health & toxic hazards
acrylates, precautions & – 9773
chemicals
—consumers, books – 8953
—four hundred, pocket guides, action & – 5606
—toxicity &, over twenty thousand entries – 742
chemicals etc, books – 5601
chromium compounds – 1272
communication of
— 9988
—regulations (US) – 708
—regulations (US)/requirements/strategies – 7208
confined spaces, welding etc – 4585
corrosion inhibitors – 7534
determination/monitoring, organisations (approved) – 7921
dusts, dust materials/effects, review/books – 733
electricity (static), drums (plastics)/flammable liquids – 2106
epoxies
— 737
—precautions & – 9773
explosions
— 8720
—testing, laboratories – 9947
formaldehyde – 2953
human errors, causes/types/prevention – 7757
information, preparation/communication/use – 4764
labelling, computers/paints etc – 8747
major
—EEC directives implementation Spain – 3932
—EEC directives, amendments – 1388
—plants (chemical), assessment/guidelines/regulations (UK) – 8864
—regulations (UK), amendments – 712
metals (heavy), artists – 1276
mineral fibres (synthetic), situation – 7962
naphtha, urticaria (contact) – 2074
paint industry materials – 4800
paint stripping – 6178
painting
— 2054, 5876
—vapours from hot substrates – 2944
paints/solvents, precautions & – 568
plants (chemical), assessment, Mond Index – 5357
plants/processes, assessment, on-site/off-site effects – 4804
polyesters, precautions & – 9773
powder coatings – 7770
pretreatment
— 6177
—cleaning/degreasing – 5355
—thermal/mechanical methods – 5356
risk assessment
—case histories/regulations (UK) – 3083
—paint industry/solvents – 7766
robots, safety & – 7760
scaffolding, boards – 3767
sealants, acetic acid emissions – 1021
silica – 6191
solvents – 2245, 4808
spray booths, fans failure/hatches difficult opening – 2050
spraying – 7036
tetrafluoroethylene – 2437
trichloroethane – 4575
triethylenetetramine (commercial) – 2096
ultraviolet curing – 551
ultraviolet radiation
— 5378
—lamps – 4609
ultraviolet-curables – 551
wood preservatives, occupational/domestic buildings – 7031

Health
cobalt blue exposure & – 3777
lead workers, physicians (occupational) & – 4757
Health & Safety (Emissions into the Atmosphere) (Amendment) Regulations 1989
provisions – 4760
Health and Safety
abrasives, for blasting – 5883
acrylates – 9773
adhesives (cyanoacrylate) – 7420
aniline – 4588
chemical industry, products costs increases – 5493
chemicals
—information, referral services for public – 9932
—pocket guides – 5606
chemicals (various) – 5601
chromates, standards/review – 1421
coatings/solvents/regulations – 3774
databases – 3075
diacetone alcohol – 4590
dioxane – 4589, 8710
directories (UK) – 7933
drums, exhaust hoods (annular)/air flow – 9811
dusts – 8715
EEC – 646
EEC directives
—framework, draft – 7192
—framework, draft, provisions – 7199
epoxies – 9773
handling, back injury risk, EEC directives (proposed) – 4751
information
—communication to employees – 7203
—suppliers &, formats – 6167
isophorone – 4591
Legionnaires' disease prevention – 8721
machinery
—design/construction, EEC directives – 8855
—EEC directives (proposed) – 4752
machines/equipment/installations use, EEC directives (proposed) – 4750, 6327
measures
—EEC directives – 8854
—EEC directives (proposed) – 4739, 4748
motor industry guides – 571
occupational, regulations (Spanish) – 3925
organisations (representative)/workers involvement EEC – 1383
paint industry (European) – 5582
paint stripping – 6178
paints materials, recommendations (Russian) – 7765
personal protective equipment, EEC directives (proposed) – 4755
polyesters – 9773
pretreatment – 5355, 5356, 6177
protective equipment, EEC directives (proposed) – 4753, 6328
quartz, standards/review – 1422
radiation-curables, acrylates – 5375
regulations, UK/EEC – 7933
regulations (German) – 7210
regulations (Irish), current/new – 7197
regulations (UK)
— 7016, 10005
—books – 731
—offices/shops etc, guidance – 7206
—progress – 3081
—terms etc/EEC – 4767
regulations (UK) etc, state of – 5577
requirements (minimum), EEC directives (proposed) – 4749, 6329
scaffolding, boards – 3767
services/specialists, regulations (European) – 2219
silica, synthetic, standards/review – 1423
solvents (chlorinated) – 5637
spraying, measures – 5379
standards, UK etc, lists – 9998
trichloroethane – 5638, 9006
ultraviolet curing, equipment & – 5345
vehicles (motor) manufacture – 9761
visual display units, directives (proposed) – 4754
wood preservatives, guidance – 9980
Health and Safety Commission
report (1987-8) – 3081
Health and Safety Executive
report (1987-8) – 3081
Health Hazards
amines (tertiary) – 548
anhydrides – 7042
artists' materials, labelling – 8919
asbestos
— 2079
—amosite, fibre length – 7014
automobiles repair – 5363
bacteria, Legionnaires' disease – 7011
buildings, sick building syndrome – 5374
chemicals, information, referral services for public – 9932
chemicals (existing), reviews, eighteen hundred chemicals – 5360, 9772
colourants, exposure/risks assessment, & measures – 2049
communication
—public relations – 7849
—to community, means – 8712
dioxins (chlorinated), inhabitants monitoring – 6176
formaldehyde – 1398
glycol ethers/ether acetates – 2104
handbooks, & precautions/regulations etc – 7220
hexachlorocyclohexane – 2095
isocyanates, safety & – 5344
isocyanates (blocked) – 1607
mercury – 2095
methylcyclohexanedicarboxylic anhydride – 2108
micro-organisms, buildings &, & precautions – 5380
ozone, review – 6193
painting – 5352
printing inks – 7756
radiation – 7775
solvents – 7016
solvents (chlorinated) – 1491
spraying – 7036
tetrahydrophthalic anhydride (substituted) – 6170
Hearing
See also noise
thresholds, styrene exposure & – 4597
Hearts
diseases, automobiles repair – 5363
Heat
emission, coatings – 1080P
transfer
—calorimeters/reactors, analysis/scale-up – 295
—curing interpenetrating networks – 81
—wire coatings, modelling, mechanical properties & – 6864

Heat Exchangers
coatings
—acrylamide polymers – 6015P
—acrylamide polymers/metal powders – 6014P
—hydrophilicity – 1668P, 9611P
fins
—anticorrosives/hydrophilicity – 9492P
—coatings, acrylics/surfactants – 6013P
—coatings, hydrophilicity – 4421P, 6833P
—coatings, hydrophilicity/roughness – 5176P
—coatings, pullulan (acetylated) – 9615P
—treatment, hydrophilicity – 9613P
—water-bornes – 963P, 1081P
—water-bornes, ion-exchange resins etc – 1672P
—water-bornes, polymers/microgels/zirconium compounds – 5178P
panels/porous coatings – 477P
ventilation systems – 7759
water-bornes, hydrophilicity, acrylamide copolymers – 962P
Heat Pumps
heat exchangers, coatings – 6014P, 6015P
Heat Resistance
acrylamide (epoxy groups)/monomers/curing agents – 3586P
adhesives (conductive), epoxies/maleimides (polyfunctional) – 1699P
adhesives (cyanoacrylate) – 265
adhesives (hot-melt)
—urethanes/ethylene copolymers – 6591P
—water (hot)/ovens (microwave) – 9270P
adhesives (ultraviolet-curable) – 5401
anticorrosives
—aluminium phosphate, binders (inorg) & – 9503P
—automobiles exhaust systems – 5167P
—borosiloxanes – 5175P
—corrosion control at high temp – 9441
—epoxies/amines – 5165P
—epoxies/minerals, emissivity – 1080P
—oxides (mixed)/phosphates – 5937P
anticorrosives (water-borne) – 1091P
antifoulings, silicon-containing polymers – 3492P
bismaleimides/ethynylanilines products – 5033P
coil coatings, polyester-imides – 6814P
electrical insulation, polysulphones/thermosetting resins – 1105P
epoxies
—from aminonaphthols – 3261P
—silanes (polymeric)/metalloxanes & – 1596P
epoxies (advanced) – 130P
epoxy/novolacs – 3250P, 4067P
maleimides/pyridazines etc & – 256P
matt coatings, epoxies (linear)/amino resins – 9604P
metal powders on semiconductives on non-metallics – 1784P
moisture-curables, polyisobutene/silyl groups – 4163P
novolacs (fluorinated) – 3321P
particles (core/shell) – 1542P, 1543P
photocurables – 9849P
photoresists – 7817P
photosensitive compsns, polyamides – 2156P
pigments (metallic) – 1468P
pipeline coatings, internal – 2770
polyamide-imides – 162
polyamides, phosphonates groups – 1836P
polyimides, siloxanes groups – 2495P
polyisocyanurates (modified) – 1630P
polymers/organo-silicon groups, antioxidants & – 4132P
polysulphides, treatment – 928P
polyurethane-imides – 6497
polyurethanes, from dienes polymers (hydroxylated) – 8145P
powder coatings
—for steel (chromium-containing) – 262P
—for steel (metal-coated) – 260P
—polyolefins/silanes graft copolymers – 979P
—primers & – 261P
—silicon-based polymers – 5036P
primers, aminosilanes/epoxy silanes – 6023P
resists – 1306P
vinyl chloride copolymers/metals salts – 3594P
water-bornes, polymerisation for – 2559P
Heat Stability
See thermal stability
Heat-curable Coatings
See also thermosetting coatings and individual types of coatings, e.g. powder coatings (thermosetting)
acetoacetates groups, mechanisms/incorporation – 2385
acetoacetates groups/unsatd groups reaction – 2384
acrylamide copolymers (self-crosslinkable) – 6470P
acrylates (polyfunctional)/acrylates (fluorinated) – 1877P
acrylics, mica/fluoropolymers particles etc & – 1143P
acrylics/pendent acyllactams – 3305P
ageing (physical) – 1892
aminimide groups/aminohydroxypropyl groups – 9238P
aminosilanes/carbonyl products, isocyanates & – 2803P
automobiles, acrylics – 9608P
basecoat/clear, acrylics, wet-on-wet – 4993P
chemistry/curing – 4992
chip resistance, epoxy/polyesters – 5997P
coatings over, acrylics, without polishing – 7374P
cross-linking, modelling/side reactions – 204
curing
—by hot liquids – 7617P
—steam/water (hot), temporary intervening layers – 6662P
—ultrasonics measurements/viscosity in – 5270
epoxies
—advancement (in situ)/low volatiles – 8095
—polymers dispersions in – 6464P
epoxies (modified)
— 943
—by diols (carboxylated) – 8442P
epoxies/novolacs/bismaleimides – 7381P
epoxy compounds/unsatd anhydride copolymers – 8544P
epoxy esters (hydroxylated), isocyanates etc & – 4161P
epoxy esters/polycaprolactone polyols/isocyanates – 3344P
epoxy/polyamides
—pot-life/stabilisers/sagging resistance – 9043P
—viscosity stabilisers & – 806P
epoxy/polyesters
— 864P
—polyisocyanates (blocked) & – 939P, 2528P
epoxy/polyesters & polyisocyanates – 6537P
flexibility, macromonomers copolymers – 6795P
for plastics, coatings (in-mould) – 5205P

Heat-curable Coatings *(continued)*
for steel, polymers particles/roughness – 8609P
holograms with – 9552P
interpenetrating networks, epoxies/polyurethanes, in situ formation – 825P
isoxazolidine derivative oligomer compsns – 176P
maleimides/dibenzalketones – 6507P
microgels – 938P
nitrogen in, determination, combustion/chemiluminescence – 8625
oligoesters, liquid crystals-type, mechanical properties/Tg – 2386
particles (transparent) – 2783P, 2784P
phosphates (unsatd)/polymerisables – 2166P
polyester-urethanes (modified)/amino resins – 9201P
polyesters (modified)
— 9110P
—mechanical properties – 2414
polyesters (siloxane-modified), silanes/titanates etc – 2527P
polyisocyanates (blocked) – 6510P
polymers (carboxylated)/orthoesters groups – 4938P
polymers (hydroxylic, branched) – 3260P
propargyl ethers polymers – 9477
silicones/polymers (amide groups, halogenated) – 2779P
siloxanes (ladder), deformation partially cured – 1170P
siloxanes (unsatd) copolymers – 926P, 3488P
siloxanes (unsatd)/siloxanes – 2503P
stabilisers, against discolouration – 2308P
stabilisers (bound) – 59P
topcoats, for cans – 5229P

Heat-curable Compositions
See also thermosetting compositions and individual materials, e.g. adhesives (thermosetting)
acrylates, of norbornane derivatives – 5642P
acrylic/urethanes (modified), by siloxanes – 932P
amino resins, zwitterions groups – 286P
bismaleimides/ethynylanilines products – 5033P
catalysts, iodonium in polymers main chain – 9862P
cationic systems – 4905
cyanates
—maleimide groups, other components & – 8141P
—maleimides groups – 4964P
—ureas (substituted) & – 6504P
dicyclopentadiene copolymers – 5688P
diisocyanates/allyl ethers/epoxy acrylates products – 5169P
epoxies
—curing agents (latent) – 9096P
—glycidyl ethers (polyfunctional) etc & – 8100P
—maleimides (polyfunctional)/anhydrides & – 4373P
—microcapsules containing agents – 7310
—stability (storage) – 4063P
epoxies (advanced) – 9095P
epoxy/phenolics, silicones & – 4936P
epoxy/polyesters, isocyanates (blocked) & – 6841P
esters (polyfunctional), unsatd/silyl groups – 8789P
ethylidenenorbornenes copolymers – 5688P
hydroxystyrene polymers (modified), unsatd groups – 7328P
imides/diphenyl compounds (unsatd), stabilisers – 5753P
iodonium salts (chemically-bound) – 9863P
maleimides, allyl groups – 908P
melamine resins (modified), by acrylates (hydroxylated) – 8148P, 8149P
oxazolines/phosphonic acids (unsatd)/phenolics products – 1615P
polyamines (unsatd), pendent unsatd/hydroxyl – 5758P
polycarbonates (unsatd) – 4937P
polyester acrylates – 8111P
polyesters (unsatd), blends – 5724P
polyimides, endomethylenetetrahydrophthalimides ends – 2474P
polyurethanes, catalysts (latent) – 8144P
siloxanes
—silanes &, pore-free products – 8170P
—unsatd/Si-H, catalysts microcapsules – 923P
siloxanes (mercapto)/acrylates (polyfunctional) – 4983P
siloxanes (unsatd)/siloxanes (Si-H) – 2505P

Heat-resistant Coatings
abrasion resistance, silica blends/silanes condensates – 9622P
acrylics/siloxanes & siloxanes (Si-H) – 2800P
borosiloxanes, two/three layers – 6022P
borosiloxanes/ladder siloxanes – 4448P
carbon fibres, polyether-imides (aromatic) – 9609P
carboxylic acids (unsatd)/carbodiimides etc – 4424P
cement/epoxies (modified)/aggregates – 7616P
electrical equipment, siloxanes/salts – 1171P
for steel (nickel-coated), pretreatment – 4291P
maleimides/silylbutadienes – 2782P
manufacturers (German) – 2212
mica (modified), colour – 3976P
ovens, abrasion resistance – 5238P
pipes, interiors, epoxies/application – 1144P
pipes (copper) – 4436P
polyamide-imides/isocyanates (blocked) – 5226P
polyamines, from polyols/nitrohalobenzenes – 4113P
polyether-amides (aromatic) – 9166P
polyether-sulphones/fluoropolymers – 1872P
polyethers (halogenated) – 1604P
polyimides
—cyano groups – 2772P
—from diphenyl sulphones etc – 1628P
polyimides (aromatic)
—blends – 2478P
—sulphones etc links – 8147P
printers, thermal heads, polymers/coupling agents – 1883P
silicates blends/silica/aluminium phosphate – 9635P
silicates/silica/fillers/metal powders – 6010P
silicon-containing polymers – 3595P
silicones, selection/application etc – 6812
silicones/siloxanes – 2567P
siloxanes, aluminium oxide/coupling agents & – 1149P
siloxanes (ladder)
—carboxylates/phosphates & – 1655P
—esters/phosphates & – 1125P
temperature limits, lists – 7541
thermal shock resistance, silicones/siloxanes/mica – 2780P
water-borne
—cans, acrylics/polyesters – 3357P
—exhaust systems – 2535

Heat-resistant Coatings *(continued)*
wires
—polyamide-imides/polyester-imides – 9534P
—polyamides/polyesters – 429P
—polyimides/oligomers/isocyanates – 4429P
—silicone-containing polymers – 4374P
—vinyl chloride polymers – 1824P
Heat-resistant Compositions
anhydrides copolymers (esterified) – 7331P
polyesters (aromatic), stabilisers – 4945P
polyethers (unsatd)/unsatd compounds etc – 861P
Heat-resistant Polymers
acrylics, from dicyclohexylpropanes (fluorinated) – 1494P
benzocyclobutene/dienophile products – 2463
block copolymers
—benzimidazoles/benzoxazoles – 163
—polyamide-imides/siloxanes – 4981P
diisocyanates/carboxylic acids (hydroxylated) orthoesters addition – 9157P
diisocyanates/polycarboxylic acid (anhydrides) – 9156P
epoxies, from dihydrophenanthrenes – 2433P
from bisimides from thiophenes – 1611
from diisocyanates & carboxylics/anhydrides – 7351P
from polycarboxylic acids etc/isocyanates – 6516P
from Schiff bases, cyano groups – 3301P
phosphinates (polymeric), main chain metals – 3328P
polyamide-imides – 9147P
polyamides (aromatic) – 6501
polybenzoxazoles (fluorinated) – 164
polyester-imides – 4109P
polyether-amides (aromatic) – 9166P
polyether-imides – 177P
polyimides
— 1631P
—from anhydrides/benzylidenelactones – 4098
—from imidazoles (amino-functional) – 2477P
—from indane – 3296
—from siloxanes/bismaleimides etc – 4139P
—synthesis/uses, review – 2447
polyimides (fluorinated)
— 5760P
—anthracene/tetrahydroanthracene (ether-bridged) Diels-Alder – 3289
polyisocyanates/polycarboxylics etc products catalysts – 4968P
polyquinoxalones – 5742
polyurethanes, from carboxylic acids etc – 9158P
Heat-sealable Coatings
for plastics
—over primers (water-borne) – 1844P
—primers (water-borne) – 4407P
Heat-sensitive Compositions
See also temperature-indicating entries
Heat-sensitive Materials
See also temperature-indicating, copying & recording entries
powder coatings, stoving (lower temp) & – 254
Heaters
infrared emission, coatings – 2785P
painting, whilst hot, solvents emissions – 2944
radiating bodies, coatings, borosiloxanes etc – 5237P
Heating
See also ignition (spontaneous)
coatings emitting infrared – 8521P
dielectric, adhesives, modelling – 8256
electromagnetic radiation, curing/modelling – 8256
equipment, transparent coatings – 1166P
induction
—adhesives, thermoplastics/orientated fibres – 9286P
—cans seams repair – 5038P
—curing – 9361
pipelines, during cleaning/coating (in situ) – 8339
Heavy-duty Coatings
See also high-performance coatings
Hectorite
properties/uses/producers etc – 7945
synthetic – 7945
Helmets
motorcycles use, painting – 6653
safety, plastics, painting, equipment/automation – 6653
Henkel Corp
acquisitions by, of Emery – 5562
acquisitions/reorganisations/policies/plans – 5561
Henkel Group
acquisitions/divestments/performance – 7164
divestments, Aqualon share – 7868
joint ventures, with Intercol – 7163
pretreatment chemicals, acquisitions/licensees/European centres – 3063
Henkel Intercol
joint ventures, adhesives manufacturers – 7163
Heptaldehyde
synthesis, castor oil pyrolysis – 8998
Heptane
miscibility, with solvents for – 8893
toxicity, data sheets – 2083
Herberts GmbH
financial performance/overseas activities – 7171
interviews – 704
Herberts Group
coatings, vehicles (motor), activities/R & D/UK – 7852
investment, Germany/overseas – 7172
Hercules Corp
acquisitions by, Aqualon Henkel share – 7868
Heterocyclic Compounds
chemistry, books – 10004
methylene substituents, photoinitiators – 1303P
photoinitiators – 1304P
products, bituminous compsns, stripping resistance – 933P
tricyclic, curing agents for epoxies – 131P
Hexaazatriphenylenes
anhydrides, polyimides, synthesis/thermal analysis – 8126
Hexachlorocyclohexane
health hazards – 2095
toxicity, data sheets – 2085
wood preservatives, replacement/retention UK – 4355
Hexadecane
miniemulsions, polymerisation in, role – 3228
Hexadienes
reaction, with oxygen (singlet) – 2287
Hexafluoroantimonates
of silver, initiators, brominated compounds & – 6429
Hexafluorobenzene
photopolymerisation, surface deposition, ESCA – 3277

Hexafluorobenzene *(continued)*
plasma polymerisation, ESCA/mechanisms – 3277
Hexafluoropropylene
grafting, on polyols – 5423
Hexahydrophthalic Acids
See cyclohexanedicarboxylic acids
Hexahydrophthalic Anhydride
curing agents, for epoxies, studies – 5717
products, with acrylates (hydroxylated) – 1587P, 5490P
Hexahydropyrimidines
groups, moisture-curables – 9203P
Hexahydrotriazines
biocides, dithiocarbamates – 2728
synthesis, from amines/formaldehyde – 1497P
Hexamethoxymethylmelamine
cross-linking agents, properties/costs/comparison butylated – 5741
Hexamethylene Diisocyanate
blocked, polyurethane coatings (one-pack) – 4170P
exposure
—immune system & – 9775
—lungs function, biuret-modified & – 2048
isocyanurates
— 9135P
—synthesis, catalysts/colouring inhibitors etc – 2468P
—synthesis/catalysts – 4961P
modified, coatings – 6845P
pneumonitis (hypersensitivity) – 8719
polyester-urethanes, velvet appearance – 6027P
polyisocyanates, polyisocyanurate/biuret groups – 4114P
reaction, gelation – 7292
synthesis, plants (US) – 7892
Hexamethylenediamine
exposure limits, prediction – 9813
polyamides, sebacoyl chloride/ferrocene & – 1634
products, with carbonates (cyclic) – 9196
Hexamethylenetetramine
complexes, temperature-indicating paints – 3580P
Hexane Diisocyanates
synthesis/products/advantages – 2465
Hexanediol Diacrylate
photo-crosslinking, in matrices, kinetics – 3003
photopolymerisation
—deoxybenzoins/amines – 2991
—networks/trapped radicals/ESR – 9662
replacement, studies various compounds – 5421
Hexanediol Dimethacrylate
photopolymerisation, networks/trapped radicals/ESR – 9662
Hexene
copolymers, pressure-sensitive adhesives (hot-melt) – 3375
polymers, modified by carboxylics (unsatd) – 9113P
Hibiscus sp
vegetable oils – 6395
Hickson International
acquisitions by
—of Galstaff – 7869
—of Wolman timber treatments – 3880
financial performance etc – 5549
Hiding Power
conductive pigments – 5636P
determination
— 8905
—clear paints/spreading rate – 1437, 1438
—white/light grey media – 6351
formulation – 2806, 2809
isoindoline pigments, alone/pigments (inorg) – 769
prediction, titanium dioxide – 2818
titanium dioxide, content/total costs/extenders – 5769
wet
—determination, emulsion paints – 2810
—emulsion paints, titanium dioxide – 2810
High-build Coatings
– 9399
anticorrosives, polyethylene (chlorinated)/acrylics – 1762
chip resistance, fillers (acicular) enabling – 949P
electrical equipment, epoxies/aluminium pigments – 3493P
epoxies
— 6836P
—testing – 3462
for galvanised steel – 5214
polyethylene (chlorinated)/acrylics – 381
High-performance Coatings
aerospace – 1128
application, brushes/rollers, tools/techniques – 7481
cathodic protection – 9451
costs, comparison – 5149
developments – 1360
epoxies, stability (storage), acrylics & – 4063P
maintenance equipment, uses/materials/relevant properties – 365
manufacturers (US), acquisition by UK – 9955
markets/types/statistics/forecasts, USA – 5516
melamine resins (epoxidised) – 1608
pipelines, polyethylene – 9439
selection/types/costs/systems – 7525
vinyl polymers, formulation – 9426
water-bornes, epoxy/urethanes – 1673P
High-performance Gel Permeation Chromatography
See gel permeation chromatography
High-performance Liquid Chromatography
acetone-formaldehyde resins – 3223
acrylates (residual) – 6069
adsorption isotherms – 3727
amines
— 1946
—derivatisation, reagents (polymer-bound) – 1206
bisphenol A, powder coatings particulates – 2885
books, handbooks/current practice – 5603
coatings field use – 9713
columns
—fibres (aligned) packing/modelling – 1209
—silica (modified) – 4506
combination
—with AAS, element-specific detection – 2882
—with AAS/MS – 5279
—with FTIR, interfaces – 3692
—with MS, water samples/extraction & – 1913
—with MS/atomic emission – 6106
copolymers, GPC &, composition/MW – 5285
detectors
—diode arrays, elutants optimisation – 2903
—photochemistry/electrochemistry combined – 2858
detectors (flame ionisation), lipids – 1950
diphenylmethane diisocyanates isomers ratios – 6943

High-performance Liquid Chromatography *(continued)*
epoxies
— 511
—curing/kinetics/accelerators – 6946
expert systems
— 6952
—GC & – 9667
fatty acid amides – 2863
fatty acids, tall oil – 6907
fatty acids (unsatd) – 4485
gradient
—styrene copolymers, composition – 9699
—styrene polymers, MW/composition – 9679
gradient elution (pH), retention prediction – 6898
hydrophobicity, determination by – 3754
interfaces, with computers – 9700
isocyanates, monomers/prepolymers, derivatisation – 6100
muconic acid, monitoring (biological), benzene – 4500
optimisation, automation, chromatograms evaluation functions – 6945
polymers – 1909
reverse phase
—azo dyes, impurities & – 1227
—columns, graphite (porous), uses – 6892
—copolymers composition – 6941
—dead times, computers programmes – 6910
—detection (on-line), liquid phase scintillators – 2899
—gradient (thermal), element specific detectors – 4481
—retention index prediction/expert systems – 6053
time-domain differentiation/computers – 6906
High-solids Coatings
See also anticorrosive primers, coil coatings, industrial finishes, maintenance paints, metallic finishes, overprint varnishes, paper coatings, polyurethane coatings, primers, stoving finishes, textured coatings, transparent coatings, water-borne coatings & wire coatings
acrylic/melamines
—catalysts (latent) – 2524
—liquid crystals groups – 4908
acrylics
— 5778P
—carbamates (hydroxylated) & – 7382P
—from polyfunctionals, cross-linking groups etc – 1576P
—stabilisers (light, bound) – 794
acrylics (branched)/amino resins – 3342P
acrylics (hydroxylated) – 146P
acrylics/isocyanates/diols/monoalcohols – 212P
acrylics/polyesters, diluents (reactive) – 7380P
acrylics/triisocyanates – 8150P
adhesion promoters, zircoaluminates – 2297
aerospace – 1128, 1131, 9576
air-drying compsns
—diluents (reactive) – 941
—organo-aluminium compounds – 2302
aircraft – 9572
alkyd/amino resins – 7377
alkyd/urethanes, allyl groups/isocyanate groups – 9202
alkyds
—flow not penetration – 2533P
—formulation – 4995
—liquid crystals groups – 8190
—synthesis/formulation/properties – 208
alkyds/sulphonates – 2677
amino resins, methoxymethylated v butylated – 5741
binders, vinyl polymers – 205
binders modification/additives – 4997
carbodiimides/isocyanate groups (blocked) – 2448
catalysts (latent), oxazolidines derivatives – 4164P
corrosion resistance, asphalts/petroleum sulphonates etc – 1800P
developments – 2510
diluents (reactive, surface-active)/volatiles – 3346P
diluents (reactive), stoichiometric ratio – 6544P
dispersants
—epoxy silanes/amines products – 8026P
—testing/pigments etc various – 8017
driers (vanadium) – 8195P
driers/accelerators, chelating agents – 2298
epoxies – 119, 976, 1771
epoxies (advanced) – 9095P
epoxy compounds/unsatd anhydrides copolymers – 8544P
epoxy/polyamides, formulation/paint systems/properties – 6687
filtration – 8354
flexibility, siloxanes (unsatd) copolymers – 5776P
flooding/streaking, factors – 2523
for concrete, acrylics/isocyanates – 2767
graft copolymers
—divinylbenzene polymers – 2382P
—styrene polymers/monomers – 1550P
graft copolymers (hydroxylated) – 9068P
melamine resins, carbamates groups – 8133
melamine resins (butylated, methylated) – 1606
NADs, soluble/insoluble particles, solvent blends – 5002P
particles (core/shell) – 4084P
pigments (treated) – 1467P
polyesters
—synthesis/formulation/properties – 208
—synthesis/MWD (narrow) – 9116P, 9116P
polymerisation (anionic) for, initiators – 2531P, 2532P
polymers (hydroxylic), humidity etc resistance – 5728P
polymers (hydroxylic)/melamines, catalysts in NADs – 9212P
polymers/liquid crystals groups – 4167P
polypropylene (modified)/polyolefins – 2530P
review – 4991
rheology, during curing, experiments/models – 2831
silicones – 9172
siloxanes (cyclic) products – 1798P
siloxanes (unsatd) copolymers – 3488P
silyl groups, polymers from telomers (living) – 4165P, 4166P
thermosetting, for plastics, acrylics/adhesion promoters etc – 1119P
tinting, systems (proprietary) – 3566
types/chemistry/formulation – 2526
urethane oligomers
— 2442
—as modifiers – 161
use, move towards – 8184
viscosity, reduction, by silanes/titanates – 4169P
water resistance, polyesters – 5003P
High-solids Compositions
See also adhesives, caulks, mastics, pressure-sensitive adhesives, printing inks, sealants & self-adhesives

High-solids Compositions *(continued)*
acrylic/melamines, catalysts (latent) – 6447
acrylics, viscosity/temp/MW – 5267
positronium annihilation, viscosity/solvents & – 6092
Hindustan Ciba Geigy Ltd
polyesters, plants (planned) – 6297
HM Inspectorate of Pollution
report (1987-8) – 5585
Hoechst AG
financial performance/products – 698
Hoechst Group
business areas/performance/activities – 671
printing inks/photoresists, South Korea – 7876
Holden Europe
products/relationships other parts ICI – 7186
Holden Hydroman PLC
plants, plastics painting – 6295
Holidays
detection, sponge/spark methods, standards – 2234
underground coatings, primers/mill scale/metals exposure – 6715
Holograms
polymers, coatings over – 9552P
Holography
holograms manufacture
—photocurables – 6217P, 6218P, 6219P, 7090P
—zinc diacrylate/phenothiazine/cyclohexanediones – 7091P
optical switches, corona discharge/gratings formation – 4236
photopolymerisation kinetics studies by – 4638
siloxanes, liquid crystals groups, data storage (reversible) – 6608
Honjo Chemical Singapore
zinc dust/zinc products, Singapore – 7872
Hoppers
particles, attrition – 8322
Horace Cory Ltd
mergers, with Ellis Jones Ltd – 678
Hospitals
coatings – 7602
Hot Melts
See also melts
thermo-oxidation/processing/properties/thermal analysis – 2922
Hot-melt Adhesives
See also pressure-sensitive adhesives
adhesion
—surfaces/failure surfaces – 6084
—water (hot)/ovens (microwave) temp – 9270P
alkali resistance, vinyl acetate copolymers – 5831P
application, spray heads/hot air – 990
block copolymers
—compatibility with waxes – 3374
—styrene – 1698P
butylene copolymers/polybutylene – 9258P
butylene polymers – 6583
butylene polymers blends – 9276P
butylene polymers blends/tackifiers – 9275P
developments – 8259
dienes copolymers/methylpentenes polymers – 9270P
ethylene polymers, modification/improvement/comonomers – 2570
ethylene/vinyl acetate copolymers blends etc – 995P
fluoropolymers – 2438P
for paper, migration (thermally-triggered) – 6164
for plastics, polyolefins blends – 8268P
formulation/properties/adhesion/end-uses – 986
graft copolymers, polyurethanes/vinyl esters – 9148P
heat resistance, urethanes/ethylene copolymers – 6591P
maleic anhydride copolymers (proprietary) – 4914
manufacturers (UK), single European market – 6278
mechanical testing (dynamic), frequencies range – 9752
microcapsules – 8036P
modifiers, polyethylene waxes, adhesion – 9253
moistenable, binders (proprietary)/formulation etc – 8260
moisture indication, colour change – 6588P
moisture-curable
—advantages/polyesters/functionalisation/data/uses – 5810
—polyurethanes – 1689, 8259
—urethane prepolymers/ethylene copolymers etc – 1695P
olefins copolymers (amorphous), advantages/uses – 3368
petroleum resins – 1552P
polyamides, from dimer acids/polyureas – 6509P
polyamides (unsatd) – 3378P
polycarbonates/butadiene copolymers, carbonates as plasticisers – 9257P
polyether-amides – 5809
polyurethanes/block copolymers/tackifiers – 8270P
properties modification – 985
proprietary – 5808
reactive, urethane prepolymers/polybutadiene (modified) – 8269P
setting, monitoring, ultrasonics – 4533
state-of-the-art/advantages etc/particular – 6580
tackifiers
—rosin esters – 1522P
—terpenes polymers – 3370
thermo-oxidation – 2922
thermosetting, powders (proprietary) – 5811
urethane prepolymers, from tackifiers etc – 2575P
uses – 5806
viscosity (reduced), increase at fifty deg C – 2574P
water-borne, polyamides/alkanolamines – 6565P
Hot-melt Coatings
See also paper coatings
film formers/graft copolymers – 2522P
polymers (hydroxylic) or polyesters or oligomers (unsatd) – 258P
primers for – 7615P
thermo-oxidation – 2922
Hot-melt Compositions
See also road marking compositions & sealants
adhesion agents, hydrocarbon resins – 835P
hydrocarbon resins (hydrogenated) – 3158P
Houses
See buildings
Howson-Algraphy
acquisition, by Du Pont – 7185
Hub Chowki
barium carbonate, plants – 4709
Hue
difference, definition revision – 5256
Humidity
See also moisture & relative humidity

Humidity *(continued)*
adhesion, water-bornes – 4403P
adhesives (epoxy) ageing, viscosity etc – 5044
adhesives (epoxy)/aluminium substrates – 2822
adhesives (ultraviolet-curable), coupling agents – 6159
coatings, water uptake, parameters – 2906
colour changes, automobiles coatings – 9637P
determination
—on-line/continuous – 6970
—psychrometers – 1420
magnetic tapes, effects – 4235
painting
—guidelines – 2633
—spraying/water-bornes – 957P
resistance
—adhesives/aluminium, pretreatment – 5863
—cycles, corrosive dips & – 1414
—epoxies, electrochemical measurements – 9442
—high-solids coatings, polymers (hydroxylic) – 5728P
—pressure-sensitive adhesives (water-borne) – 9252
wood &, biodegradation control – 7580
Hydantoin Rings
acrylates, photocurables – 631P
Hydantoins
adhesion promoters, photocurables – 630P
Hydracrylic Acid
polyester acrylates – 3272P
Hydraulics
equipment, coatings/cavitation resistance – 5245P
fluids, primers resistance to – 3459
Hydrazides
adhesives (epoxy) – 9281P
groups, main chain, heterocyclics rings from – 4958
phenylol groups, stabilisers – 873P
polyfunctional
—dispersions, acrylics blends & – 6551P, 6552P
—water-bornes, polymers/carbonyl groups & – 6553P
Hydrazines
complexes, antifoulants – 6729
groups, triazines, solder mask coatings – 2791P
Hydrazones
antifoulants – 6729
Hydrazyl Compounds
emulsion polymerisation presence – 6432
Hydrocarbon Resins
analysis, composition – 7672
hydrogenated
—adhesion agents – 835P
—cyclopentadiene-type copolymers products – 3158P
hydroxylated, polyurethanes from – 5241P
modified, tackifiers, adhesives – 5816
soluble, in solvents (aromatics-free) – 9073P
statistics/uses/companies/plants, Japan – 4682
synthesis, pentadiene/olefinic chain transfer agents – 97P
types/synthesis/uses, book articles – 95
Hydrocarbons
See also 'hydrocarbons, aromatic, chlorinated & halogenated'
activity coefficients/molar volumes/vapour pressure etc – 1971
air pollutants, corrosion – 383, 384, 385
exposure
—kidneys cancers, microscopy/negative toxicity evidence – 5373
—short, brains/vestibular/long-term problems – 4585
initiators, decomposition rates prediction – 1540
modified, release coatings – 5987
unsaturated, adsorption/reaction, on metals – 5278
Hydrocarbons, Aromatic
corrosion by, copper, testing – 8884
definitions relevant to – 8929
Hydrocarbons, Chlorinated
cancers, of livers, women/men – 3769
health & safety – 7220
paint strippers, activators – 4295P
recovery, plants/corrosion resistance – 4611
Hydrocarbons, Halogenated
bromine-containing, detectors presence chlorinated – 1219
determination, in water – 2000
iodine-containing, detectors presence chlorinated – 1219
paint strippers, oxygenated & – 9397P
Hydrochloric Acid
corrosion inhibitors against – 9422
wastes, from pulp mills, use – 3104
Hydrocyclones
See also cyclones
Hydrogels
NMR, water state/temp – 2889
phosphazenes (carboxylated)/metal ions – 4117
polyethyleneimine (substituted) – 5735
polyurethanes/acrylates – 2485P
Hydrogen
evolution, ultraviolet-curables, stabilisers & – 7076
generation
—control, ultraviolet-curables – 9901P
—inhibitors against – 4672P
Hydrogen Bonding
NMR – 2860
polybenzimidazoles, FTIR/probes – 8632
polyimides, FTIR/probes – 8632
Hydrogen Chloride
polymerisation by – 5751
polymers (chlorinated) producing, coatings/no pretreatment – 9548P
smoke containing, toxicity/carbon monoxide – 1273
Hydrogen Embrittlement
See hydrogen (embrittlement)
Hydrogen Fluoride
absorption, additives, fluoropolymers stabilisation – 3147
Hydrogen Iodide
initiators
—iodine & – 3225
—polymerisation (cationic), activators & – 7311
Hydrogen Ion Concentration
determination
— 6624
—adhesives (cured)/water – 1404
—equipment features/selection/fault finding – 9722
—under rust/at crevice fronts – 8640
emulsions, rheology – 7637
in mixed/non-aq solvents, scales – 1220
phosphating, hard water/buffering agents – 4266
Hydrogen Peroxide
analysis (trace), chemiluminescence – 2862

Hydrogen Peroxide *(continued)*
chain transfer agents/inhibitors – 2983
photoactivation, vanadium complexes & – 2281
treatment with, adhesion (intercoat) – 9381P
Hydrogen Sulphide
discolouration by, antifoulings – 5943
resistance to, polyurethanes/iron oxide – 8399
stress corrosion cracking, control – 2681
Hydrolysis
amides – 8124
biopolymers – 8175
control, acrylics/silyl groups – 7368P, 7369P
cyanoacrylates polymers – 8154
esters
—catalysts, zeolites – 4856
—presence polymers – 4050
inorganic compounds, presence polymers, mixtures – 2365P
methyl acrylate/diamines adducts – 7989
phosphites (spiro), of pentraerythritol/phenols – 9024
phosphonates (unsatd) polymers – 8154
polyesters, from malic acid – 9084
polyether-urethanes – 8124
polyimides
—FTIR – 6093
—kinetics/mechanisms – 5746
reactors (flow) – 8175
resistance
—amides (unsatd)/fluorocarbons (unsatd) copolymers – 1619P
—dispersants – 3150P
—polyurethane coatings (moisture-curable) – 4159P
—polyurethanes, from methyloctanediols – 6512P
—siloxanes (unsatd)/carbonate groups – 3324P
silanes
—kinetics/mechanisms – 2492
—presence/absence fluorides – 2490
ureas – 8124
urethanes – 8124
Hydroperoxides
autoxidation products – 786
decomposition, by organo-borons – 7277
Hydrophilic-Lipophilic Balance
diluents (reactive), high-solids coatings – 3346P
emulsions, surfactants/zeta potential & – 1242
surfactants, alkyds & – 220
Hydrophilicity
acrylamide (substituted)/cellulose ethers – 9613P
anticorrosives
—heat exchangers fins – 9492P
—heat exchangers fins, roughness & – 5176P
anticorrosives (water-borne) – 5178P
by weathering etc – 5146
coatings
—aluminium oxide (activated) – 4421P
—control, polymers blends – 2790P
—for aluminium – 9611P
—for aluminium, acrylamide polymers – 1668P
—heat exchangers fins – 6833P
control, thermo-reversibility – 8608P
microgels – 69P
plastics
—plasma treatment/decay – 2925
—treatment, polysaccharides/isocyanates – 5978P
polypropylene (modified) – 8041
polyurethane coatings – 6009P
polyurethanes, hydrophilics/hydrophobics blends – 4972P
printing plates, substrates/carboxylates – 8525P
radiation-curables – 5461P
surfaces, polymers, by grafting – 99
ultraviolet-curables – 3827P, 3828P
water-bornes, heat exchangers – 963P, 1081P
Hydrophobicity
acrylics, surfaces, by siloxanes copolymers – 8659
aluminium oxide (hydrated/treated) – 8196P
coatings, fungal growth & – 2724
determination, HPLC – 3754
fillers (treated), coatings against ice – 3601P
kaolin (treated) – 5634P
silica (fumed), treated – 9025
Hydroquinone
polyether-ketones – 853P
polyethers, from halobenzenes/bisphenols & – 2420P
products, with glyoxal, polymers (ladder) – 845
Hydrosols
water-bornes, pigments/dispersants (polymeric) & – 4179P
Hydrotalcite
modified, anticorrosives – 2706P
Hydroxyacetic Acid
ethers, with polyethers, polymerisation presence – 4056
Hydroxyalkyl Acrylates
branched, synthesis/uses – 9017P
copolymerisation, hydroperoxides/peroxides & – 2434P
products
—with acid chlorides presence polyamides – 1591P
—with cyclohexenedicarboxylics (maleinised) – 4648P
—with lactones/ethers (cyclic) & anhydrides – 1590P
Hydroxybenzoates
See also salicylates
Hydroxybenzoic Acids
See also salicylic acid
grafting
—on acrylics, mesogenic groups – 4908
—on alkyds, liquid crystals groups – 8190
polymers modified by, liquid crystals groups – 4167P
products
—with amines, curing accelerators – 8116P
—with polyesters – 2414
Hydroxyethyl Acrylate
maximum allowable concentrations – 4612
products, with anhydrides, copolymers – 1587P
Hydroxyethyl Methacrylate
copolymerisation, parameters, & coatings – 1137
products, with anhydrides, copolymers – 1587P
Hydroxyethylcellulose
emulsion polymerisation presence, grafting on – 8078
printing inks, wood block printing – 8296P
rheology, polyethers & – 2832
solutions, particles filtration from – 4255
Hydroxyl Groups
determination
—epoxies – 4513
—in epoxies – 516
ferric oxide (alpha-/gamma-) surfaces – 767
Hydroxylamines
hindered
—ethers, stabilisers (light) – 9033P

Hydroxylamines *(continued)*
—stabilisers in coatings – 9032P
inhibitors, against acrylates polymerisation – 4064P
nitroso groups, solventless coatings – 8238P
Hydroxylic Polymers
branched, synthesis, addition/graft simultaneous – 3260P
coatings
—adhesion promoters & – 5651P
—anhydride groups/chelating agents etc & – 2798P
—anhydrides &, curing progress/properties – 9758
—metal compounds/anhydrides & – 940P
—siloxanes/hydrolysable groups & – 4137P
—sulphonamides/amino resins & – 9497P
electrocoating (cathodic), amino resins (carboxylated) & – 2649P
fast-curing compsns, vinyl ethers & – 6825P
from carboxylic acids (unsatd)/epoxy compounds – 5728P
from carboxylic acids (unsatd)/glycidyl esters – 7329P
from cyclics (unsatd)/hydroxylated – 144P
maintenance paints, formulation – 9426
polymerisation presence – 9030P, 9031P
products
—with acetals – 108
—with isocyanates (unsatd) – 910P
reaction, with melamine resins, chemistry/kinetics – 6050
synthesis, from polymers/silyl ketene acetals groups – 4041
treatment, ion-exchange resins in – 4184P
water-bornes, epoxy phosphates/curing agents & – 9227P
Hydroxynaphthoic Acids
salts, anticorrosives – 4340P
Hydroxypropyl Methacrylate
maximum allowable concentrations – 4612
Hydroxypropylcellulose
separation/purification – 9188P
SIMS – 6903
Hydroxypropylmethylcellulose
SIMS – 6903
synthesis – 4987P
Hydroxystearic Acids
polyesters, from carboxylics (caprolactone-extended) & – 1513P
Hydroxystyrene
derivatives, polymers, resists – 4664P
polymers
—butylation, photoresists – 1314P
—epoxies/chelates & – 2612P
—modified, azido groups, photoresists – 8781P
—modified, diazoquinonesulphonates groups – 9868P
—products isocyanatoethyl methacrylates – 5472P
—products isocyanatoethyl methacrylates, resists – 6226P
—solder mask coatings – 1319P
—solubility parameters – 7700
—synthesis via acetoxystyrene polymerisation – 1581P
polymers (unsatd), from hydroxystyrene/vinyl ethers etc – 7328P
substituted
—& polymers/photoresists – 8785P
—polymers, photoresists – 8786P
—polymers, stabilisers (heat) – 60P
Hygiene
industrial, recommendations (Russian) – 7765
Hygrometers
types/developments/proprietary – 6154
Hygroscopicity
coatings
—barrier over hygroscopic over lower – 6802
—polyvinyl alcohol/anhydrides products – 2788P
low, thiocarbamates from polyisocyanates – 6515P
powders, coatings, water absorption – 8550P
Hyperdispersants
See dispersants (hyper-)
Hypophosphites
photoinitiators, amino groups etc/sensitisers & – 7090P
Hypophosphoric Acid
coatings (inorg), chromium oxide/hypophosphorus acid etc & – 445P

I

Ice
coatings against
— 5236P
—new systems – 1135
—siloxanes/polymers/surfactants – 1162P
—siloxanes/treated fillers – 3601P
protection by – 2671
ICI
acquisitions by, of K-S-H – 6305
cans coatings, world market/reorganisation – 6317
emulsion paints (solid), litigation/licensing – 5543
financial performance/changes/plans – 7183
gloss paints, market shares – 9923
ICI World Packaging Group – 5544
joint ventures
—Bapco, buy-out by ICI – 3060
—with Sherwin-Williams, buy out – 692
plants, pollution control investment – 7897
structure/activities/performance/world – 7190
workers' role changes/management – 2209
ICI Americas
diphenylmethane diisocyanates, plants (new) – 7871
ICI Australia Ltd
acquisitions by, of BJN Australian Holdings/Selleys – 2204
Dulux, competition Taubmans – 5525
financial performance – 7165
nitrocellulose, plants closure – 7870
packaging, for metals, coatings for – 5544
ICI Chemicals & Polymers Group
acrylics/polyurethanes synthesis, Spain – 5555
ICI Resins formation – 3883
ICI Colours & Fine Chemicals
divestments, of Intermedics Organicos share – 5550
ICI Lacke Farben GmbH
interviews, with chairman – 7189
ICI Paints (Thailand) Ltd
history etc – 3864
ICI Paints Division
acquisitions by, of Quimilac SA – 3914
CIL/Glidden reorganisation – 683
profiles – 7170
research etc/products (recent)/acquisitions etc – 2213
retailers &, support packages – 9926

ICI Resins
formation, plants/sites/products areas – 3883
ICI Speciality Chemicals
acquisitions by, of Thiele Engdahl – 3913
Idemitsu Petrochemicals
acrylic acid/acrylates, plants (planned) – 3891
Iditol
– 9259P
Ignition
– 542
epoxy/polyesters, powders, explosions & – 5358
powders, electricity (static), book chapters – 3097
sources, sparks/hot surfaces – 2053
Ignition, Spontaneous
filters (used) – 5359
on surfaces (hot)
—mechanisms – 8706
—molecular structure/MW & – 8707
vapours/air mixtures, temp calculation – 9786
Illness
sick building syndrome – 1278
Illuminants
colour appearance models & – 2815
colour matching, visual/standards/point of sale problems – 6855
daylight, D65 – 6855
daylight simulation – 8573
metamerism, illuminants/substrates, various, analysis – 3603
Ilmenite
See also titaniferous ores & mineral sands
deposits, potential, Guyana – 6375
mines, new section, Florida – 6310
mines/titanium slag production, New Zealand studies – 9935
processing, New Zealand – 7936
producers – 7943
reserves, New Zealand sale – 6316
treatment, by-products, iron oxide (micaceous) – 7967P
Images
analysis
—colorimetry – 5259
—computers/aggregates – 2936
—corrosion/electron microscopy (thermal wave) – 9702
—electrophoresis/bacteria identification – 2732
—gels etc in melts – 6142
—particle size distribution – 3731
—particle size distribution, automation – 6144
—particle size, pixel problems – 3723
—systems (proprietary) – 7698
combination, with bar graphs, cameras (video) – 7783
films (polymer) over, lower gloss – 3615P
microscopy, storage techniques – 9701
Imaging
electrophoresis, polyamic acids/polyamides – 7073
NMR – 4510
photopolymerisation presence preformed – 5435
SIMS, microscopy – 4509
surfaces/sub-surface, microscopy (acoustical) – 1263
Imidazoles
amides groups, stabilisers (light) – 3148P
amino-functional, polyimides – 2477P
aminoalkyl groups, isocyanates (blocked) from – 4073P
catalysts, urethanes formation – 6498
curing accelerators, adhesives (epoxy) – 6595P
curing agents
—dicyandiamides/prereacted products & – 1687P
—for epoxies, etherification reactions – 4045
—for epoxies, polyols & – 1586P
derivatives, trimellitates, curing agents – 1825P
derivatives (fused-ring), polyamides – 7350P
difunctional, hydroxylated, polyurethanes – 3288
groups, triazines, products, curing agents – 2430P
thioformyl groups, curing accelerators – 2436P
Imidazolidinethione
polyfunctional, coatings/reduced emissions, hydroxylics & – 4969P
Imidazolidones
formaldehyde condensates & – 2422P
groups, acrylics, polyisocyanates & – 1651P
polyfunctional, coatings/reduced emissions, hydroxylics & – 4969P
Imidazolines
substituted, thioethers, synthesis – 7269P
surfactants – 6418P
synthesis/uses – 6418P
temporary protection, polyvinyl butyral (modified) etc & – 4344P
thiocyanate salts, curing accelerators – 122P
Imidazolinium Compounds
anticorrosives – 6418P
Imidazolopyrimidines
methylene, synthesis/spectra/solvents effects/acid dissociation – 7955
Imide Groups
pendent, polyether-amides, cross-linkable – 7345P
Imides
copolymers, with siloxanes – 9185P
groups
—dicarboxylic acids, products glycidyl halides – 6473P
—polymers (neutralised, partially), adhesives – 4221P
—polymers, photoresists – 9867P
silyl groups, coatings from condensates – 9580P
Iminoisoindolinone Entries
See isoindolinone(s) entries
Immersion
steel (zinc-coated)/coatings, adhesion & – 5269
Immune System
See also antibodies & antigens
anhydrides
— 7042
—histamine release assays etc – 2071
antibodies, allergies diagnosis – 2952
hexamethylene diisocyanate – 9775
isocyanates
—antibodies, exposure/diseases – 8719
—protein conjugate challenges & – 2055
toxicity to, effects/strategies/review – 574
Impact Resistance
coatings, pipes (steel) – 5241P
cumyl isocyanates (unsatd) copolymers – 1804P
determination
—falling weight – 9991
—impactor shape/stresses/moisture effects – 1902
—standards – 6339
epoxies (modified), oxazolidone groups – 6461P
epoxies/flexibilisers – 2391
falling ball tests – 6347
pipeline coatings, determination – 8869
plastics, coatings effects – 5976
polycarbonates – 1585P
polyesters (unsatd)/polyisocyanates/monomers – 137P

Impact Resistance *(continued)*
polyimides, from siloxanes/bismaleimides etc – 4139P
silanes (imide-containing) condensates – 9580P
water-bornes – 956P
Impact Strength
adhesives (cyanoacrylate) – 265
coatings, for plastics – 440
factors – 4884
Impedance
corrosion, equivalent circuits – 1064
corrosion resistance
—barrier part – 1062
—coatings/appliances (gas-fired) – 5912
data analysis/use – 8414
determination
—concrete (reinforced) – 6736
—concrete/iron – 6686
—galvanised steel/coatings, interpretation – 6694
—rebars – 6737
measurement
—corrosion rates – 4315
—corrosion rates/pseudo-inductive response – 9467
—corrosion resistance, data analysis – 5914
—corrosion, data interpretation – 8393
—data interpretation – 8390
—methods/precision limitations – 8415
—non-stationary methods, phosphate coatings – 3480
—perturbation signal/graphical presentation – 387
—two electrode method – 9442
—zinc dust paints – 352, 360
use of range of frequencies
— 8414
—acid rain/scribed samples – 2664
—advantages etc/corrosion – 9453
—blistering/electrocoating/corrosion – 5906
—Bode plots/Nyquist plots – 1058
—coatings/technique/uses – 5905
—concepts/modelling long term coating behaviour from – 9433
—concrete (reinforced) – 6728
—corrosion control – 8406
—corrosion presence cathodic protection – 1068
—corrosion resistance – 9434
—data validation/Kramers-Kronig transform – 1065
—electrochemical measurements – 4311
—electrodes (segmented) under coatings – 9443
—film thickness – 6692
—magnesium/treatment/coatings – 8405
—metals (coated)/containers – 1067
—methods/data analysis/usefulness etc – 2664
—pipeline coatings – 5151
—pipeline coatings, computers & – 2669
—steel (coated), at defects – 351
—weathering/coatings/interpretation – 2663
Imperial Chemical Industries
See ICI
Importing
customs duties, EEC – 1385, 3078
Impregnants
for wood, moisture & – 9400
moisture-curables, graft copolymers, silicones/acrylic monomers – 1639P
polyamines/maleimides, reduced volatiles – 9155P
polyurethanes (carboxylated) – 230P
water-bornes, window-frames – 5011
Impregnation
concrete – 7543
siloxanes, silicate paints over – 363
window-frames, painting, first coatings factory – 5116
wood
—boron compounds vapours – 5956P
—ultrasonics – 5942
wood preservatives
—carboxylates/solvents – 3540P
—coatings after – 5221
—standards – 3945
Impregnation Varnishes
epoxies, boron trifluoride complexes/bismaleimides & – 4411P
pipes, polyesters/sulphonic acids/dessicants – 8477P
resoles/glycol ethers/amines/salicylic acid – 9533P
Incineration
emissions
—inks drying, heat recycling – 9804
—printing & – 2971
solvents – 5388
wastes – 8739
wastes (chemical), plants, factors/considerations – 7782
wastes (hazardous)
— 8739
—methods/companies – 7781
—plants (planned), UK – 6199
Incubators
proprietary, laboratories – 9655
Indane
derivatives
—polyimides – 3296
—products with polyether-amines – 4088P
spiro compounds, epoxies from – 872P
Indene
products, with azido aldehydes – 615P
substituted, petroleum resins with less – 1554P
treatment with, kaolin – 5634P
Indene Copolymers
from glycidyl esters etc, thermosetting compsns – 2419P
inks (semi-solid) – 1013P
Indentation
disbonding, bond strength determination – 495
Indian Paint Association
history/activities/achievements – 6296
Indium Oxide
coated
—by silanes (hydrolysed), acrylates & – 2795P
—by silanes, conductive coatings – 2794P
conductive coatings – 3598P
conductive pigments – 774P
Indole
derivatives, carboxyl groups, resists – 2175P
Indulines
coatings, for plastics, vegetable oils etc & – 1841P
Industrial Diseases
See diseases
Industrial Finishes
acrylic/urethanes – 6522P
alkyd/urea resins, formaldehyde control – 6523P
amino resins, history/uses – 4956
application, methods – 5094
dispersants (hyper-) – 8015
for wood – 8516
manufacturer (American, North), reorganisation – 683

Industrial Finishes *(continued)*
manufacturers (Dutch), plants etc – 7182
manufacturers (German)
— 2212
—interviews – 704
manufacturers (Italian), acquisition majority shares – 6307
manufacturers (Japanese), plants (planned) – 4707
manufacturers (Spanish), acquisition by UK – 3914
manufacturers (UK), competitiveness improvement factors – 8813
manufacturers (US), acquisition – 7881
plants, Runcorn – 9946
polymers (vinyl), Japan – 3875
stabilisers (light) – 9033P
statistics (Italian) – 7130
statistics/predictions – 1347
water-borne
—acrylics & alkyds – 5008
—statistics/predictions – 1347
—viscosity (dynamic uniaxial extension) – 6881
Industrial Finishing
See also finishing
equipment, pumps – 1032
equipment/materials, directories (UK) – 3432
lines, testing (on-line) – 2047
methods, equipment/techniques/advantages etc – 5876
Industrial Minerals
directories, producers – 7943
of Guyana – 6375
of South Africa – 7952
pigments etc, books/statistics – 8958
Industrial Paints & Chemicals
acquisition, by Croda International – 5559
Industrial Relations
– 663
Inflammable
See flammability etc
Information
hazards, communication – 7208
hazards/safety, preparation/use/users – 4764
health & safety
—communication to employees – 7203
—referral services for public – 9932
—suppliers &, formats – 6167
instructions/safety information with products – 2240
literature, EEC, official, catalogues – 4792
management systems
—laboratories – 3656
—laboratories, computers – 2192, 9703
—proprietary, laboratories – 3641
micro-organsisms, databases/services/networks – 5941
storage, turbidity/clear transition films – 6610P
value added & data services, & training – 706
wood finishes, provision to users – 2761
Information Services
chemical manufacturers offering – 670
patents (Chinese) – 7910
Information Sources
analytical chemists – 3075
colour – 3605
journals in translation – 729
patents, journals (Japanese) relevant to – 2218
Infrared
absorption, recording materials (heat-sensitive) – 5071P
absorption etc, phthalocyanines (substituted) – 13P
camouflage – 7237
dyes absorbing in, review – 7235
far
—coatings emitting – 9502P
—emission, coatings – 8521P
—emissions, coatings with – 2785P
near
—absorption, cyano groups – 3128P
—absorption, phthalocyanines (modified) – 3117P
—measurements during DSC – 1202
powder coatings stoving – 7469
radiation of, heaters etc, coatings – 5237P
scattering, dispersion (degree of) studies – 5317
transmission, adhesives – 5050
Infrared Drying
combination
—with hot air, radiator combustion gases use – 6675P
—with ultraviolet – 5424
equipment, short-/medium-wave comparison – 2631
equipment (electrical), theory/practical/advantages – 5864
equipment (proprietary), powder coatings – 2133
ovens (electric), advantages/uses/costs/comparison convection – 5083
printing inks
— 2591
—equipment, capabilities/selection – 5060
problems/substrates types – 7469
transparent coatings, semiconductors – 4444P
Infrared Spectra
compression, robust eigenvectors – 3671
computers, spectra compression – 4488
databases – 6083
identification, blends, identification/subtraction/identification – 3697
imidazolopyrimidines – 7955
mixtures, individual spectra reconstruction – 4517
near, principal component analysis/compound weights – 8618
polyurethanes (unsatd), ionic/non-ionic – 2452
potassium silicate/fillers – 1968
silanes (polymeric) – 6059
Infrared Spectroscopy
air pollutants, FTIR versus filter – 9696
black deposits, on road marking – 2890
combination
—with microscopy – 4524
—with microscopy, uses – 6048
comparison, with FTIR – 531
computers, data acquisition/handling/search – 1907
curve analysis, Fourier self-deconvolution/algorithms – 509
emission (transient), paints etc – 6926
epoxies – 511
far, sub-millimetre, fluoropolymers – 4507
hydrocarbon resins – 7672
interfaces, epoxies & steel/zinc – 503
latices (core/shell), interfacial layers – 6933
near
—accuracy, absolute determination – 6086
—combination microscopy, uses/advantages – 9717
—history/equipment/uses – 6056
—powders/liquids, sampling (on-line) – 7650

Infrared Spectroscopy *(continued)*
—water in organics – 6896
—water in polymers – 1987
phosphazenes (chlorinated) – 9133
photo-crosslinking monitoring, ketones (unsatd) groups – 5282
photopolymerisation (fast), monitoring – 2126
photopolymerisation monitoring – 1288
polyamic acids curing, monitoring – 5298
polymers
— 8957
—book chapters – 1959
—degradation studies – 3668
polymers/principles/groups/spectra etc, books – 10003
polysulphides (ladder) – 182
reflectance
—infrared (near), polymers, functional groups etc – 526
—near-infrared, 'false' samples detection – 3679
—near-infrared, mixtures, 'false' samples detection – 3678
—near-infrared, wavelengths selection instabilities – 3683
reflection/absorption
—steel/formic acid reaction – 1764
—tunable diode lasers, thin films etc on solids – 8648
silica, in acetone/hexane, interactions – 2891
surfaces – 1959
techniques/principles/developments – 3668
time-resolved
—microsecond – 4501
—phthalocyanines excitation & – 4501
toxic gases etc, monitoring, specific frequency – 7679
wood, furniture (garden) weathering – 1066
zinc oxide – 1193
zinc/silicate paints, curing monitoring – 6735
Infrared Spectroscopy, Fourier Transform
air pollutants
—detection limits/mixtures/wavelengths etc – 9726
—FTIR versus filter – 9696
—monitoring, semiconductors manufacture – 5301, 5302
air pollutants (multi-component) – 6934
coatings, weathering/depth profiles – 2897
coatings field use – 9713
combination
—with chromatography (supercritical fluid) – 3643, 4479, 7651
—with GC (multidimensional) – 5292
—with GC, chromatograms reconstruction – 6894
—with GC, oxygen-18 enriched internal standards – 2884
—with GC, pollutants/MS/lightpipes – 1207
—with GC/matrix isolation – 7661
—with GC/MS, library searching – 9668
—with GC/MS, quantitation – 9683
—with HPLC, interfaces – 3692
—with microscopy, paints – 6113
—with microscopy, pollutants particulates – 6928
—with other techniques (various) – 5304
—with thermogravimetry – 7691
comparison
—with dispersive – 531
—with DSC, resins systems – 1234
corrosion products – 8615
curing/deblocking – 6931
double bonds (trans) determination
— 517
—automation – 3695
emission, flame, org compounds – 6948
emulsion polymerisation, grafting to emulsifiers – 6904
epoxy siloxanes – 1637
evolved gas analysis, accessories/uses – 9714
fluoropolymers/polyvinyl acetate – 2006
glass fibres – 2913
hydrogen bonding – 8632
interfaces – 545
lecithin – 3676
linings, ageing &, swimming pools – 9664
paint defects, techniques/equipment etc – 8643
photoacoustic
—coatings studies – 9720
—comparison with diffuse reflectance – 501
—depth profiling/signal saturation – 4515
—history/theory/uses/experimental details – 4528
—low surface area solids – 6054
—polyesters (unsatd) cross-linking – 6057
—review, theory/techniques/uses – 6077
—silica, temp effects – 2898
—siloxanes cross-linking – 4491, 6110
pitches, dilution matrices/sensitivity – 6078
pollutants/carbon (activated), in situ – 4521
polyamic acids, imidisation kinetics etc – 5749
polyesters (unsatd), curing monitoring – 1568
polyethylene, gel content determination – 9659
polyimides, hydrolysis – 6093
polymers, GPC fractions composition – 6058
polymers (hydroxylic)/melamine resins – 6050
printing inks, uses, troubleshooting – 9675
quantitative, data analysis/additives – 9654
radiation curing monitoring – 5305
reflectance
—diffuse, adhesives, stamps (postage) – 3690
—diffuse, comparison with photoacoustic – 501
—diffuse, wood – 6089
—near-infrared, remote via optical fibres – 3645
—total, attenuated, cells, solutions/thin solid layers – 2894
—total, attenuated, diffusion coefficients by – 3760
—total, attenuated, emulsion paints – 9723
—total, attenuated, photoinitiators efficiency – 2984
—total, attenuated, silicone rubber/plasma treatment – 6105
reflection/absorption
—film thickness/band intensity/angle – 2879
—polyurethane coatings, humidity etc & – 2878
siloxanes, analysis (trace) – 6911
solvent vapours, mixtures, analysis – 9725
sulphur dioxide oxidation – 4525
ultraviolet curing monitoring – 2127
wood/isocyanates/chromium(III) – 3647
Inhalation
ammonium perfluorononanoate – 9780
asbestos – 5369
barium carbonate, paralysis (hypokalemic) – 2965
butylene oxides – 4577
dusts, vapours adsorbed on – 4564
ethylene glycol monobutyl ether – 5365
formaldehyde
— 2063
—asthmatics & – 2963
—noses – 2969
glycol ethers – 2052

Inhalation *(continued)*
isocyanates, sensitisation, protein conjugates & – 2055
methacholine inhalation tests – 2077
methyl ethyl ketone, uptake/blood/elimination – 5368
methylene chloride – 4601
respiratory input, definitions – 5371
solvents
—abuse – 3773
—expired air sampling – 5284
styrene, brains/astroglial reactions – 7774
titanium dioxide – 3780
toluene, brains/electroencephalographic activity – 2102
trichloroethane, toxicity – 8718
trichloroethylene
— 2948
—blood levels – 2086
—skin effects – 2073
volatiles (org), women, risks to suckling child – 4603
Inhibitors
for siloxanes hydrosilylation – 3323P
nitrophenols/quinone, for polyesters (unsatd) – 8089
phenothiazine, polyesters (unsatd) & – 8104P
polymerisation
—adhesives (cyanoacrylate) – 5052P
—diamines – 1539
—emulsion polymerisation, effects – 6442
—hydrogen peroxide, termination & – 2983
—hydroxylamines/phenylenediamines – 4064P
—maleic anhydride &, mechanisms – 103
—oil-phase, emulsion polymerisation presence – 6441
—polycarbonates cyclic oligomers & – 9107P
—polyesters (unsatd) &, review – 2398
Initiators
amines (hindered), peroxides groups – 794
azo compounds
—amidine groups – 828P
—polystyrene synthesis – 8066
azo sulphonates – 9057
benzoyl peroxide, methoxystyrene &, end groups – 3221
benzylsilanes/ammonium, counterions & – 4036
boron trichloride/dichlorodimethylhexane – 9071
carbenium ions, methoxyphenylmethylium – 3234
chain transfer/termination &, thiurams/kinetics/thermal analysis – 8088
chemistry/radicals/study techniques, review – 2343
decomposition rates, prediction/equations – 1540
diazonium salts, mechanisms – 8052
dyes/reactive counterions – 7106P
emulsion polymerisation, types/kinetics/mercaptans – 834
end groups from
—cinnamic comonomer effects – 9074
—polymers degradation & – 6969
for polyesters (unsatd), styrene (residual) – 1563
hydrogen iodide/iodine – 3225
inclusion compounds containing – 6616P
iniferters
—review – 2345
—thiuram polymers (phosphorus-containing) – 3315
interactions, with metal powders – 9088
iodonium salts, sensitisers/electron donors & – 4658P
iodonium salts (chemically-bound) – 9863P
latent, glycidyl ethers oligomers (unsatd) – 5705
manganese carbonyl, polymers (halogenated)/monomers & – 4024
manganese(III) – 8176
mercaptans, for styrene/maleic – 3236
methyl isobutyl ketone peroxide, low MW polymers – 135P
organo-aluminium/trifluoroacetate – 9087
organo-aluminium/vinyl ether adducts – 5678
organo-silicons, polymerisation (group transfer) – 865P
peroxides, amino/azo groups – 8050
phosphomolybdic acids – 9075
phosphotungstic acids – 9075
polyfunctional
—organo-silicon compounds – 852
—peresters, styrene/kinetics & – 4899
—polymerisation (group transfer) – 4008
—polymerisation (group transfer), ladders from – 4059
—polymerisation/MW, theory – 9058
polymeric
—polyethers with main chain azo – 1533
—polymerisation (cationic) – 7343
polymerisation
—for cyanoacrylates – 9165P
—polyvinyl acetate properties – 3624
—telomers (living) – 4166P
polymerisation (anionic)
—Lewis acids direct – 4973
—phenylethylpotassium – 2324
—ring-opening – 2383, 2394, 2514
—ring-opening, types, review – 2362
—silyl groups – 2531P, 2532P
—telomers (living) – 4165P
—types/chemistry/mechanisms etc – 2334
polymerisation (cationic)
—for orthoesters – 2412
—for styrene compounds – 2377
—for vinyl ethers – 2393
—for vinylcarbazoles – 2459
—hydrogen iodide/activators/living – 7311
—review – 2357, 2378
—triphenylmethane co-initiators – 94
polymerisation (group transfer)
— 852, 4071P
—crown ethers/salts – 6428
—organo-silicons – 4039, 4047
—organo-titanium – 6491
polymers beads, benzoyl peroxides groups – 6438
polymers/copper(II), adsorption on substrates – 8042
porphyrins – 2340, 2514
reactivity ratios &, concentration effects – 2404
redox systems
—monopersulphates/thioglycollic acid – 8129
—types/chemistry, review – 2320
silanes, polymers (ladder) types – 4980P
silver hexafluoroantimonates/vinyl bromide (substituted) – 6429
sodium bisulphite, metal salts effects – 836
sulphonium salts, tetrahydrothiophene-based – 5679
surface activity, emulsion polymerisation – 4888
suspension polymerisation – 84
transition metals/olefins complexes – 4900

Initiators *(continued)*
trimethylsilyl trifluoromethanesulphonate – 4030
ylides
—degradative initiator transfer – 3240
—picolinium chlorophenacylides – 3240
Ink Fly
See also misting
Ink Jet Printing
See 'printing, ink jet' & printing inks
Inks
See also conductive, magnetic, marking, printing & writing inks
acrylics, from acrylates (hydroxylated)/anhydrides – 1587P
additives, NADs – 9302P
erasable
—for fabrics/paper etc – 1012P
—vinyl acetate/water colours etc – 4244P
for ball-point pens
—dispersants (polymeric)/polymers particles – 2598P
—water-bornes, lubrication/additives/dyes – 9318P
historic, hand stamps, analysis – 5296
invisible, ultraviolet radiation development – 1711P
manufacturers (UK), interests acquisitions/overseas subsidiaries – 2202
metallic, aluminium pigments (flake, coated) – 8995P
metals (soluble), testing/limits – 3944
methylpentene polymers (modified) – 1602P
pictograms, Mexican civilisations – 4988
pigments (black) – 3975P
radiation-curable, acrylamide (substituted) – 3852P
recording (heat transfer), binders/colourants/phosphatides – 2596P
resin acid salts/binders – 8308P
resin acid salts/mercaptides/binders – 8298P
resin acid salts/rosin derivatives etc – 8307P
rheology, viscometers (LARAY) – 1895
ribbons, for printers, dispersants/viscosity stabilisers – 5067P
semi-solid, typewriters etc with heaters – 1013P
transfer materials (thermal), waxes/binders etc – 8311P
water-borne
—azo dyes – 3409P
—azo dyes (sulphonated) – 6604P, 9320P
—carboxylated compounds/polymers – 4183P
—dioxazine pigments – 35P
—epoxies/dyes particles – 9304P
—phthalocyanine pigments (carboxylated) – 6606P
—pigment compsns manufacture – 1485P
—pigments (polymeric, hollow) – 4242P
—polymerisation for, presence polymers – 2559P
—solvents, acetals/ketals of polyols – 8027P
Innovation
finishing, technology suppliers – 8832
SPRINT programme
—EEC Council – 6331
—European Parliament – 6333
—proposals call – 6330
Insecticides
approved, lists (UK) – 4799
coatings
—acrylonitrile copolymers & – 1816P
—against arachnids etc, contact – 5212
dioxolanes, chlorophenyl/triazinyl groups – 2737P
for wood, thiophosphates (chlorinated) – 4367P
phosphorothioates, cockroaches control – 6808
Insects
coatings against, acrylonitrile copolymers/insecticides – 1816P
compositions against, boron compounds – 9526P
repellents, amino acid esters/piperonyl butoxide – 1813P
trapping, adhesives/tack – 2579P
wood &, occurrence/control – 7580
Insolubilisation
by ammonium zirconium carbonate – 4399
latices, coatings, wet strength & – 4395
paper coatings
—glyoxal systems (blocked)/polymers – 9566P
—reactivity/mechanisms/potential problems – 4402
Inspection
buildings (domestic), dampness – 3501
coatings, ships, while operating/dock side – 8698
costs/advantages – 5150
equipment, directories (US) – 8335
fusion-bonded coatings, application/testing & – 6992
inspectors/supervisors certification, Norway – 4736
linings, standards – 3947
painting
—equipment – 7498
—plants – 4769
plants, testing/quality assurance & – 10005
ships' tanks, painting/shipbuilding – 9352
Instruments
electrocoating, silica (coated)/silicates (coated) – 5021P
Insulation
See also electrical insulation
acoustic
—acrylics/sawdust/slag etc – 2787P
—automobiles, underseals – 9605P
—coatings, silicic acid/flame retardants – 9543P
—flame retardance – 5849P
corrosion resistance, silanes/powders/acids – 2703P
siloxanes – 8167P
thermal
—acrylics/sawdust/slag etc – 2787P
—explosions venting panels – 2056
—factories, performance – 7911
—permeability, water vapour – 6344
—polyurethane foam, coatings/flame retardance – 5193P
—spraying, fibres/reactive components – 7625P
—vessels, petroleum gas (liquefied) – 4385, 6781
—wastes utilisation for – 1281P
Interactions
acid/base, carbon fibres/coupling agents – 1915
acrylics, blends – 8676
adhesives – 2571
adhesives/plastics – 7419
aluminium dihydrogen phosphate – 4310
coatings/copper substrates – 4436P
coatings/substrates
— 6535
—FTIR (photoacoustic) – 9720
colloids – 6150
colloids/stabilisers, square well potentials – 7715
corrosion inhibitors (volatile) – 9436
corrosion inhibitors (volatile)/substrates – 9446
coupling agents/steel, mercaptoacetate groups – 5650

Interactions *(continued)*
dispersions, particles (charged) – 6153
dispersions (concentrated), light scattering – 6987
estimation, dielectric properties/refractive index – 1261
glass fibres (coated)/vapours – 2913
interfaces, review – 2938
interpenetrating networks – 4889
low-energy surfaces/low-energy surfaces, in water – 3757
magnetic pigments/polyester-urethanes – 4536
mercaptan groups/substrates – 4134P
mica surfaces, adsorbates – 4540
particles, determination – 8677
persulphates/emulsifiers – 7308
pigment dispersions, calorimetry/additives adsorption – 6986
pigment pastes/paint bases – 9751
pigments/binders, dispersibility – 3738
pigments/paint systems, activity coefficients/heat of mixing – 9751
planar surfaces, anchored polymers – 6145
plastics/coatings – 6790
polyelectrolytes/hydrophobic anions – 6051
polymers
—blends, NMR studies – 1976
—compatibility studies – 2875
—GC (inverse)/contact angles/blends/fillers – 2923
polymers/liquids – 1241
polymers/polymers, parameters/GC (inverse) – 1933
polymers/water, spreading pressure – 5342
polystyrene/polybutadiene – 6147
printing inks/paper, modelling – 4559
silica/acetone/hexane, infrared spectra – 2891
silica/zirconium chelates (polymeric) – 6044
solvent blends, between solvents – 6141
solvents/solutes – 2244
styrene/butadiene copolymers, pigments/paper/binders & – 4397
surfaces
—mica in melts – 1251
—polymers solutions between – 8662
surfaces (coated), by incomplete adsorption – 4563
surfactants/sols – 2255
water/polymers – 6982
zinc dust/binders – 6535
Intercol Kleb & Dichtstoff
joint ventures, with Henkel – 7163
Interfaces
acrylics/metals – 7729
adhesives/metals
—polyvinyl chloride/dehydrochlorination – 7415
—polyvinyl chloride/dehydrochlorination/segregation – 7414
coatings/defects – 439
coatings/substrates/air, FTIR – 545
cobalt/coatings, Mossbauer spectroscopy – 505
corrosion inhibitors, surfaces analysis – 8639
coupling agents (silane) – 5327
epoxies & steel/zinc, changes – 503
galvanised steel/coatings, corrosion/SIMS – 9721
interactions, review – 2938
lactices, composition profiles at – 3621
liquid/liquid, miscible liquids, contact angles/interfacial tension – 6163
liquid/solid, adsorption/fluorescence spectroscopy – 4495
metals/polymers, study techniques – 9753
monolayers, studies for microemulsions – 2915
polymers, diffusion/fractals etc – 1265
polymers one end at, brushes theory – 6143
wood/coatings – 4325
Interfacial Tension
alcohols (aq)/dodecane, dispersion components – 8673
determination
—liquids/liquids, drops/computers – 1254
—liquids/liquids, equipment – 546
epoxies/carboxylated nitrile rubber – 8699
film formation – 2538
latices (composite) manufacture – 2387
liquid, surface tension components from – 4549
micelles, relation between tension/micelle type – 7736
negative, determination, gels/liquids, extrapolation – 6163
polymers/liquids – 1241
Interferometry
swelling & – 6162
Intermedics Organicos SA
acquisition, part of, by Dai-Nichiseika – 5550
Internal Stresses
See also stresses
anticorrosives – 6695, 6714
coatings
—ageing/film formation/cracking etc – 1779
—reduction – 6846P
counteracting, pre-stretched substrates – 7479
factors/adhesion/formulation – 9645
glass transition temperature – 1779
lacquers/impregnants layers, & conditioning – 6876
latices (core/shell), modelling/stability – 6139
International Paint
powder coatings/thermosetting resins, plants (USA) – 4724
International Paint PLC
acquisitions by, of Epiglass Paints – 2207
activities/performance etc – 5565
marine coatings, profiles/products – 672
International Paints & Chemicals Ltd
acquisition, by Croda – 6308
International Paper Corp
tall oil – 5535
International Speciality Chemicals
resorcinol-based products – 3909
Interpenetrating Networks – 2369
acrylics & castor oil/diacids products – 3186
acrylics/polyurethanes, fatigue/energy absorption/viscoelasticity – 2828
acrylics/siloxanes
—guest networks continuity – 8682
—sequential, catalysts problems – 5663
acrylics/urethanes
— 7289
—properties – 3292
—synthesis/properties – 4012, 8049
anticorrosive primers – 7545
coatings
—acrylic/urethanes & acrylics/isocyanates – 2364
—mechanical properties – 8604
—mechanical properties/Tg/interactions – 4889
compatibility, thermodynamics, simultaneous/stepwise – 77
curing, kinetics/heat transfer models – 81
electron microscopy, freezing samples for – 2896
emulsion polymerisation (two-stage) – 6435

Interpenetrating Networks *(continued)*
epoxies/polyurethanes, cross-linking agents quantities – 818
fluoropolymers/siloxanes, porous microstructure – 86P
formation, phase separation mechanisms – 2358
grafting (inter-network) – 821
morphology/mechanical/spinodal/advances etc, review – 4017
neutron scattering (small-angle) – 9712
–formed/forming – 6103
of semi type
—block copolymers/styrene polymers, morphology/properties – 3187
cellulose esters/vinyl ethers – 2136P
cyanates/polymers, modelling (molecular) – 8044
polybutadiene/polyphenylene oxide (substituted) – 4021
polyphenylene oxide (substituted)/siloxanes – 815
polyurethanes/polyvinyl chloride, mechanical properties – 2836
polyurethanes/polyvinyl chloride, morphology/ESR – 4496
polyvinyl chloride/urethanes urethanes phases – 5668
phase separation, morphology/studies/mechanisms, review – 2317
polybutadiene/polyphenylene oxide (substituted) – 4021
polymers (cross-linked)/monomers – 279P
polymers/mong condensates – 2365P
polyphenylene oxide (substituted)/siloxanes – 815
polyphenylene oxide/siloxanes – 9738
polystyrene/polyurethanes, ionisable groups – 6426
polystyrene/styrene, phase separation – 7290
polyurethane ureas/polymers, properties/morphology – 6427
polyurethanes polyureas – 4237
proprietary – 4017
siloxanes/polyethers – 3169
turbidity, avoidance, factors – 821
vegetable oils products/polystyrene – 8997
viscoelasticity
fillers effects – 1192
phase separation degree – 497
Intumescence
polycarbonates/sulphonates – 1829
Intumescent Coatings
See also flame-retardant coatings – 4381
ageing, tests (accelerated) – 3550
aluminium phosphate/bisphenols (brominated) etc – 1108
application/services – 7588
components/behaviour/application/thickness – 4376, 6776
effectiveness/proprietary/application/standards – 5968
epoxies, amines etc & – 6787P
fire resistance, testing/chemistry/specifications/application – 3550
for heat-sensitives, epoxies & zinc/boron/phosphorus – 5970P
for wood – 4383
formulation/requirements etc – 4377, 6779
formulation/testing/application – 7589
military equipment – 1831
offshore structures, epoxies – 4380
performance, factors/testing/European harmonisation need – 3547
performance/substrates improvement – 5966
polyesters (unsatd), ammonium polyphosphate, viscosity/gel time etc – 5964
proprietary, data sheets – 4789
pyrolysis products – 9673
standards (UK, proposed) – 4382
Intumescent Compositions
chars from, SEM/X-ray analysis – 8614
for partitions containing thermoplastics pipes etc – 1109P
phosphates (bicyclic)
—char formers – 5969P
—derivatives/polymers etc – 8482P
siloxanes/volatiles in microspheres – 1109P
Inventories
chemicals, for regulations (UK) – 6334
computers – 3336, 4700
Investment
chemical industry, (Belgian/Dutch) – 9907
chemical industry (Argentine) – 4673
chemical industry (Canadian) – 9910
chemical industry (French) – 9918
chemical industry (Polish) – 6249
chemicals
—manufacturers (French/Swiss) – 9943
—manufacturers (Norwegian) – 9952
elastomers manufacturers – 7168
environmental protection, UK – 9941
financial aid, UK/EEC/European Investment Bank sources – 8837
paint industry (Asian, South-East), foreign companies – 8829
paint industry (Brazilian) – 3897, 7154
paint manufacturers (German), Germany/overseas – 7172
paint manufacturers (UK) – 3884
paint shops, automobiles manufacturers – 3898
plants
— 9335
–chemicals manufacturers (French) – 7166
pollution control – 7897
printing inks manufacture – 5552
printing inks/binders – 9939
resins producers – 3881
silicones-based products – 7857
vinyl chloride, monomer/polymers – 7877
Iodonium Salts
groups
—chemically-bound, synthesis/cationic polymerisation by – 9863P
—main chain, polymers, synthesis/uses – 9862P
photochemistry, mechanisms – 2988
photoinitiators
—acetophenone derivatives & – 602
—coumarins & – 2160P
—phosphine oxides & – 5456
—photosensitisers (polymeric) & – 4657P
—photosensitisers for – 1289
photosensitisers/electron donors & – 8797P
—rearrangement reactions/homolysis/heterolysis – 9831
—sensitisers/electron donors & – 4658P
photosensitisers & – 599
Ion Beams
analysis by, surfaces – 7687

Ion Beams *(continued)*
effects, on polymers, chemical changes – 7724
resists – 4645
treatment with
—films (polymer), conductivity – 4097
—polymers, properties & – 6650
Ion Chromatography
chlorine, as chlorides – 3646
chromium, trivalent/hexavalent separation, detectors – 3700
sulphur dioxide, sampling & – 4508
Ion Exchange
anticorrosive pigments
—calcium ions/silica – 758
—materials (inorg) – 6758P
—silica/calcium ions – 364, 6698
epoxies, chloride ions removal – 9223P
materials
—dyes/amphipathics &, pigments – 1472P
—sepiolite (treated) – 6391P
materials (inorg)
—dyes &, pigments from – 8980P
—pigments from dyes & – 775P, 776P
mica/coloured ions – 3976P
Ion Microscopy
SIMS – 4509
Ion Mobility Spectrometry
amines – 6927
Ion Scattering Spectroscopy
chromium/iron alloys, passivation – 7667
Ion-exchange Chromatography
See also ion chromatography – 5603
carboxylic acids, determination in water – 1196
Ion-exchange Resins
biocides, metal ions, coatings – 3536P
latices purification – 5015P
metal-exchanged, coatings, lightning & – 8520P
reagents/catalysts from – 4009
treatment with, copolymers, before cross-linking – 4184P
water-bornes, heat exchangers – 1672P
Ionene
polymers, antifoulants – 4365P
Ionisation Spectroscopy
See also spectroscopy
resonance, principles/lasers sources/uses – 5289
Ionised-cluster Beam Deposition
thin films, books – 2247
Ionomers
mouldings, adhesion promoters – 9040P
particles
—antifoulings – 3542P
—decomposable, antifoulings – 9527P
phósphazenes (carboxylated)/metal ions – 4117
polyether-urethanes, emulsification/films properties – 2446
polyurethanes, properties/emulsification effects – 2445
propylene/undecenoic acid copolymers – 9647
sulphonate groups, review – 913
surfactants (polymeric) forming – 4874P
synthesis/structure/properties/uses, review – 1531
uses, actual/patents – 4018
water-bornes, polymers (carboxylated) blends – 8203
Ions
adsorption, on oxides, physical/chemical, separation – 9745
diffusion, coatings – 6696
implantation
—review – 7728
—techniques/uses – 8349
treatment with
—corrosion resistance 9456
—plastics – 7510P
Iovite
acquisition, by Akzo – 4732
Iron
See also pipes
alloys
—magnetic pigments, flakes – 5635P
—with copper, oxides films, MS – 4486
cast
—lighthouses, maintenance paints (water-borne) – 7517
—powders, coatings/chemical resistance – 4348P
complexes, arenes & cyclopentadienyl/indenyl – 4890P
corrosion products/oxides films, MS – 4486
magnetic particles, from oxide hydroxides (acicular, stabilised) – 1465P
wrought, marine corrosion (coastal) – 8384
Iron Blue
See also Prussian Blue
Iron Compounds
autoxidation presence, with/without fructose – 42
Iron Driers
See driers
Iron Oxide
See also ochre, sienna, umber & 'iron oxide, black' etc (micaceous, red, synthetic & yellow)
alloy of zinc &, zinc dust replace – 5925
anticorrosives
—coupling agents & – 2691
—hydrogen sulphide resistance – 8399
chelating, by tannins, effectiveness/AAS – 9681
coated
—by polyols, concentrates/dispersibility 4826P
—nacreous pigments, coatings – 8188P
coatings of, on mica – 4838P
colloids – 1200
dispersion, mechanisms – 4462
dispersion (degree of)/flocculation, infrared scattering – 5317
fine, from acetylacetonates, plasma oxidation etc – 3106
flake
—coated, by titanium dioxide – 3130P
—colorimetry – 2264
—modified – 2262
—modified, haematite core/spinel surfaces – 2267P
—synthetic, fine, anticorrosives/synergism – 3105
formation/transformations, review – 4811
golden colour, manufacture – 7984P
magnetic coatings, CPVC – 4541
magnetic pigments
—anticorrosives – 7558
—manufacture/coatings against sintering – 784P
manufacture
—electroplating wastes – 7790
—from electrodes/galvanic industry effluents 36P
—oxidation presence aluminium/carbonates – 1473P
oxides (mixed)
— 5632P
—Fe/Al, core/outer layer – 4822P
—Ti/Fe, studies/iron(III) reduction – 4546
particles (porous) modified by – 8054

Iron Oxide *(continued)*
silicate paints – 223
thermal stability, antioxidants treatment – 6382P
transparent
—adsorption on, dispersants (polymeric) – 8657
—anticorrosives – 6743P
types/producers/deposits/statistics/uses – 5611
Iron Oxide Hydroxide
See also goethite & 'iron oxide, yellow'
acicular
—orientated, films/optical properties – 489
—stabilised, iron particles from – 1465P
—thermal decomposition, electron microscopy etc/mechanisms – 5620
colloids, reduction – 2025
formation/transformations, review – 4811
Iron Oxide, Black
colloids – 1200
thin films, from acetylacetonates – 5839
Iron Oxide, Micaceous
anticorrosives
—comparison specularite – 7961
—polyethylene (chlorinated)/acrylics & – 1762
corrosion resistance, mechanisms/uses/performance – 751
manufacture
—bacteria/hydrothermal treatment – 21P
—from iron chlorides – 7967P
manufacture/evaluation – 750
modified, by oxides/hydrated, weather resistance – 3131P
review – 4812
Iron Oxide, Red
coated, aluminium oxide, pigment pastes/coatings – 768
manufacture, products phosphates etc treatment – 4828P
particles (clustered), intergrown – 3966P
water-soluble salts content reduction – 4828P
Iron Oxide, Synthetic
producers etc – 5611
Iron Oxide, Yellow
See also iron oxide hydroxide
thermogravimetry – 7647
Iron Phosphides
coatings, welding & – 6019P
Irritants
eyes, testing – 557
glycol ethers, testing – 2052
inhalation, responsiveness increase after – 6172
solvents, testing/prediction – 563
Irritation
diacrylates, hexanediol diacrylate replacement – 5421
mucous membranes, solvents exposure – 2967
propylamines – 5372
skin
—butylphenol – 2955
—low, acrylates (polyfunctional) – 9117P
—metals/plastics/rubber – 5343
Ishihara Sangyo Kaisha
titanium dioxide
—joint ventures – 6300
—plants capacity increases – 7874
ISK Singapore
titanium dioxide, plants production start – 6306
Isoalloxazines
resists – 2175P
Isoascorbic Acid
See erythorbic acid
Isobornyl Acrylate
adhesives, elastomers/peroxides & – 9278P
Isobutene
copolymers, adhesives – 2580P
polymerisation (cationic), initiators/triphenylmethane – 94
polymers, organo-silicon groups, cross-linking – 4132P
Isobutyl Methacrylate
polymers, adsorption on pigments – 1243
Isobutyl Vinyl Ether
See vinyl isobutyl ether
Isocyanate Groups
acrylonitrile copolymers, moisture-curables – 478P
determination, in copolymers, ultraviolet spectroscopy etc – 1921
free, determination – 4490
hydrolysis, polyamines from, catalysts – 2472P, 2473P
isocyanurates
—& isocyanate polyisocyanurates – 2467P
—from hexamethylene diisocyanate – 9135P
moisture-curables, silyl groups (Si-S) & – 217P
organo-silicons
—acrylic/urethanes – 4135P
—curables – 4175P
pendent, polymers, moisture-curables – 8548P
polymers, curables, mercaptans (polyfunctional) & – 200P
silanes
—fluoropolymers surfaces modification – 4465
—synthesis/products/polyurethanes – 916
terminal, butadiene polymers, synthesis, initiators use – 894
tertiary, urethane prepolymers – 2470P
Isocyanate Groups, Blocked
carbodiimides, heat-curables – 2448
electrocoating (cathodic), curing temp reduction – 9217
Isocyanates
See also diisocyanates & polyisocyanates
acrylic compsns, chemistry/formulation – 9076
adhesives, hydroxylics/silanes/zeolites & – 8272P
adhesives (water-borne), polymers/epoxy compounds & – 1697P
aliphatic, from urethanes from olefins – 167P
asthma – 5352
asthma (occupational), challenge tests results – 4594
coatings
—siloxanes (functional) & – 5767P
—siloxanes/acrylics & – 8155
condensates, isocyanates (free) removal – 9164P
curing agents (latent), amines/phenols & – 3248P
emissions
—levels during spraying – 8708
—regulations (UK) – 4760
emulsions, emulsifiers & – 7347P
free, removal, carbon dioxide (liquid etc) – 9164P
from allyl alcohol/diisocyanates – 9202
hazards/precautions – 5344
HPLC, derivatisation & – 6100
microencapsulation, coatings (curable) containing – 456P
organo-silicon groups, fluoropolymers (reactive) & – 210P
pneumonitis (hypersensitivity) – 8719

Isocyanates *(continued)*
prepolymers
—from isocyanates/cycloaliphatics – 900P
—from polyethers (amino-functional) – 180P
—from toluene diisocyanate, synthesis – 3297P
—HPLC, derivatisation – 6100
—polyamines by hydrolysis (mild) – 3299P
—polyether-amines/diisocyanates – 7354P
—silicones/epoxy silicones & – 9287P
processing, plants, cleaning of plants – 4296P
products
—removal from plants – 4296P
—with dyes – 278P, 773P
—with mercaptans, coatings – 7365P
reaction
—with acrylics/silyl groups/hydroxyl deblocking – 8189
—with glycidyl ethers – 8137
reactions/polymers types, review – 3291
removal, from plants – 4296P
respiratory systems
— 2101
—effects/early detection/treatment – 6195
sampling – 7673
sensitisation, protein conjugates challenges – 2055
silyl groups
—coatings, fluoropolymers & – 5225P
—products acrylates (hydroxylated) – 6423P
soft-feel coatings – 9594P
synthesis
—catalysts – 5756P
—from nitrites/alkyl chlorides – 2453
unsaturated
—photocurables, polyamic acids & – 3829P
—polymerisation/macromonomers synthesis – 4096
—polymers, silyl groups – 9214P
—products polyethers (hydroxylated) – 7814P
—products with hydroxylics – 910P
water repellents, for wood, FTIR – 3647
Isocyanates, Blocked
chemical resistance/flexibility/adhesion/stability/health – 1607
coatings
—carbodiimides/uretonimines groups & – 5186P
—polyether (amino-terminated) & – 4116P
coatings (one-component), polymers & – 8551P
curing agents (latent) – 4073P
deblocking, FTIR – 6931
determination – 6116P
electrocoating (cathodic)
—epoxies & – 8211P
—film thickness control – 8212P
heat-resistant coatings, polyamide-imides & – 5226P
powder coatings, epoxies & – 9246
prepolymers, emulsions – 9168P
products, with amines, curing agents – 4933P
unblocking, catalysts – 2484P
Isocyanatoethyl Methacrylates
copolymers, composition, ultraviolet spectroscopy – 1921
products, with hydroxystyrene polymers – 5472P, 6226P
replacement – 7096P
Isocyanurate Groups
diphenylmethane diisocyanates (polymeric) – 9136P
polyisocyanates, biurets & – 4114P
polyisocyanates with, synthesis presence amines/epoxy – 4967P
Isocyanurates
electrocoating (cathodic), epoxies & – 225P
from hexamethylene diisocyanate, catalysts/colouring inhibitors etc – 2468P
isocyanate groups
—& isocyanate polyisocyanurates – 2467P
—from hexamethylene diisocyanate – 9135P
synthesis
—catalysts/kinetics – 5748
—from hexamethylene diisocyanate, catalysts – 4961P
unsaturated
—adhesives (radiation-curable) – 5488P
—photo-crosslinking, carboxyl-reactive groups & – 1293
—ultraviolet-curables, acrylic/urethanes etc & – 5492P
Isodecyl Benzoate
coalescing agents – 7272
Isoelectric Point
iron oxide, & dispersants effects – 8657
titanium dioxide, acrylics effects – 2919
Isoindoline Pigments
cyano/phenylcarbamoyl methylene groups – 7244P
hiding power etc, alone/pigments (inorg) – 769
imino
—cyano, zinc/nickel/cobalt/copper – 12P
—iminoisoindolinines/hydrazinoisoindolinones systems – 7245P
Isoindolinone Pigments
imino, chlorinated, blends with sulphonated chlorinated – 16P
Isoindoloquinazolinediones
polyimides (siloxane-modified) – 2499P
Isoindoloquinazolines
derivatives, pigments (org) from diamines & – 14P
Isooctane
hazards/safety/regulations – 7017
Isopentenyl Compounds
copolymers – 6472P
Isophorone
derivatives, polyimides from – 4372P
determination, in air – 4591
mutagenicity, studies – 9787
reduction, cyclohexanone (substituted) from – 2294P
specifications – 8907
toxicity/hazards/regulations (French) etc – 4591
Isophthalaldehyde
products, with azides (difunctional) – 9879P
Isophthalic Acid
determination, in air, sampling/GC – 6066
polyesters, synthesis – 9109P
substituted, products with polyether-amines – 4088P
Isoprene
block copolymers
—adhesives (radiation-curable) – 1689
—grafting, primers – 469P
—radiation-curables, polythiols & – 8767P
block copolymers (star), hydrogenation/sulphonation – 2380
emulsion polymerisation, initiators, types/kinetics/mercaptans – 834
graft copolymers, adhesives (water-borne) – 5821P

Isoprene *(continued)*
polymerisation, Ziegler catalysts/reactors series/single condenser – 5690P
polymerisation (cationic), with comonomers – 2372
polymers
—adhesives, additives – 3382P
—epoxy groups (terminal) – 8106P
polymers (hydrogenated), epoxy groups (terminal) – 8107P
synthesis, wastes, coatings, alkyds & – 7802
Isopropanol
exposure, printing (offset) – 5283
monitoring (biological) – 5283
photo-oxidation, on titanium dioxide – 1464
toxicity, noses – 9788
Isopropenylphenols
alkoxylated, emulsifiers (unsatd) – 65P
novolacs, from cresols &, epoxy/novolacs – 3360P
polymers
—resists – 3018P
—synthesis via deblocking – 5697
substituted, polymers, stabilisers (heat) – 60P
Isopropenylpyridines
block copolymers, synthesis/characterisation – 544
Isopropenylstyrenes
polymers, modified, diazoquinonesulphonates groups – 9868P
Isopropyl Acetate
fires – 2067
specifications – 8910
Isoquinolones
derivatives, azo dyes/pigments – 6379P
Isotachophoresis
capillary, combination with MS – 4527
Isothiazolinones
biocides – 1814P, 2738P
mixtures, proprietary, allergies – 2945
Isothiazolones
wood preservatives, carboxylates & – 3539P
Isothiocyanates
products, with epoxies/phenols products – 5723P
Isoxazoles
from nitrites/alkyl chlorides/others – 2453
Isoxazolidines
derivatives, oligomer compsns, from oximes/acrylates – 176P
Isoxazolines
from nitrites/alkyl chlorides/others – 2453
Itaconates
transesterification, oligoesters, then modification – 436
Itaconic Acid
copolymerisation, with vinyl acetate – 5706
Itaconic Anhydride
copolymerisation, with vinyl acetate – 5706
copolymers
—modified, resists – 3022P
—products alcohols (unsatd), curables – 7331P

J

Jacoa Ltd
distribution centres, Crown Berger acquisition of – 3908
Jallut SA
profile/plants – 6321, 9962
Japanese Lacquer
See urushi varnishes
Jet Printing Inks
See printing inks & 'printing, ink jet'
Johnson & Bloy
divestments, inks (metallic)/aluminium pastes – 673
inks business, acquisition by Manders – 7159
inks interests/overseas subsidiaries, acquisition by Manders – 2202
Johnstone's Paints PLC
acquisition, by La Seigneurie, bids – 2215
plans, after acquisition by La Seigneurie – 3907
Joinery
exterior, finishes, types/proprietary ranges – 3575
situation, architects view/coatings etc – 8508
wood preservatives, application (in situ), plugs impregnation – 3506
Jojoba Oil
substitutes, oleyl oleates, synthesis conditions – 2276
Junghanns Chimica Vernici
acquisitions by, of Mascradri-Arsonsisi majority – 687

K

K-S-H
acquisition, by ICI – 6305
Kalon Group
divestments
—Kirklees Chemicals to management – 674
—to Dealwork Ltd – 669
emulsion paints (solid), litigation by ICI – 5543
factories closure (Leyland)/investment – 3884
financial performance – 5541
production/warehouses/profits – 6301
Summit Chemicals liquidation/SPL Paints (Ireland) formation – 2194
Kansai Paint Co
financial performance/activities – 7176
joint ventures, Kun Sul/Du Pont & – 3911
Kaolin
aggregation
— 22P
—structured products – 23P
bulked, slurries (aq), dispersants – 3973P
bulking, by polyelectrolytes – 3973P
calcined, undercoats, automobiles – 2799P
deposits
—Brazil – 3062
—potential, Guyana – 6375
dusts, hazards – 733
exposure, respiratory systems, exposure duration etc – 7034
metering, gravimetric feeders – 4251
modified
—by polyethyleneimine, powder coatings – 8241P
—vacuum/pentadiene/polymerisation – 4845P
ores/processing, Australian assets acquisition – 3054
paints etc use/plant expansions – 3028
paper coatings, selection/beneficiation – 9545
pneumoconiosis – 7034
printing inks – 7960
processors, capacity increases, mining & – 3073
producers (UK), acquisition part of – 6294
properties/uses/grades – 9026
slurries, rheology/viscosity maxima/immobilisation concentration – 6877

Kaolin *(continued)*
structured
—by chlorides etc – 7969P
—by chlorides, paper coatings – 7968P
suspensions, filtration – 3428
treated
—amines/amine oxides, dispersibility – 3114P
—by indene, stability/hydrophobicity – 5634P
treatment, glycols before calcination – 8982P
Kaolinites
calcination, NMR, aluminium-27/silicon-29 – 8644
electrophoresis, modelling – 5314
FTIR (photoacoustic), depth profiling – 4515
modified, by ammonia then organics – 7970P
Kaomin NL
acquisition, reserves/facilities, by English China Clays – 3054
Kasur
barium carbonate, plants – 4709
KC Graphics
acquisition, by Sericol – 5569
KDK Automotive Coatings
joint ventures, automobiles coatings – 3911
Kemira Oy
privatisation – 9950
titanium dioxide, effluents problems reduction – 2201
Kerr-McGee Corp
joint ventures, Minproc &, titanium dioxide – 1374
titaniferous ores, Minproc Holdings & – 2195
Ketals
coatings, polymers/silyl groups & – 1654P
of polyols (alkoxylated) – 8027P
photoresists, and generators/polymers (alkali-soluble) & – 8793P
polymers/silyl groups/catalysts &, stability – 9175P
Ketenes
acetals
—silyl groups, acylation/telechelic diols synthesis – 4041
—vapour deposition, coatings – 2646P
Ketimines
cyclic, amino groups (pendent), synthesis – 3991P
mercaptan groups, electrocoating, epoxies & – 229P
modified, curing agents for epoxies – 7318
moisture-curables, acetoacetate groups & – 2525
products, with epoxies – 6555P, 6556P
Ketoacids
salts, printing inks (water-borne), ink jet – 5061P
Ketones
condensates, with formaldehyde – 2422P
from chromones – 3137
heterocyclics, unsatd links amino, photopolymerisables – 6234P
mutagenicity – 9787
photolysis, enols (transient)/trapping – 9846
photosensitive compsns, siloxanes & – 9859P
polyfunctional, methylene (activated), bisimides (unsatd) & – 8140P
products, methylene insertion adjacent to carbonyl – 4857
pyridyl groups, photoinitiators – 5479P
synthesis, from aldehydes, sulphonamides reagents for – 4857
unsaturated
—diketones & – 605P
—photosensitisers – 606P
—polyenes (conjugated) from – 9070
—polymerisation/reactivities/end groups – 1557
Ketoximes
products, with xylylene diisocyanate – 9162P
synthesis, from alcohols, without intermediates isolation – 6406P
Keyboards
keys, manufacture, photocurables/metals deposition – 9874P
Kidneys
cancers of
—hydrocarbons, histopathology – 5373
—tetrachloroethylene – 3776
lead – 4569
solvent blends – 553
trichloroethylene – 2948, 7754
Kirklees Chemicals
acquisition, by management – 674
Kitchens
coatings, odours control – 5233P
Kubelka-Munk Theory
coefficients, spectroscopy (derivative) – 2901
two-constant, colour matching, algorithms – 3614
Kun Sul Chemical Co
joint ventures, Kansai/Du Pont & – 3911

L

La Seigneurie
acquisitions by, of Johnstone's Paints – 2215, 3907
plants/activities/products/Eiffel Tower – 3901
Labelling
adhesives – 8950
artists' materials – 8919
hazardous materials
— 9983
—EEC directives – 3924
—regulations (Canadian)/WHMIS, problems – 7195
—regulations (UK) – 3927
—regulations (UK), amendments – 1396
—regulations (UK), Northern Ireland – 5583
—transport (road) – 5584
—transport (road), regulations (UK) – 7205
lead-containing paints, lead values requiring – 8851
lead-containing pigments etc, regulations (German) – 6325
methylene chloride, regulations (US) – 3085
paint manufacture, computers – 3336
paints, bar codes/processes/computers – 7064
paints etc, computers/hazards codes – 8747
paints/pesticides, regulations (Australian) – 8847
regulations – 6335
regulations (European) – 3096
solvents (org), brains/EEC – 4741
toys – 8858, 9979
Labels
adhesion, to glass, factors – 6873
adhesives (hot-melt), olefins copolymers – 3368
adhesives (water-borne) – 7424P
manufacturers (European) – 8839
pressure-sensitive adhesives
—manufacture/quality/negotiations/China – 8253
—market (European)/proprietary facestock – 5815
release coatings – 8536P

Laboratories
automation, robots – 512
cleaning, equipment, suppliers/ranges – 9653
computers
—data analysis/handling – 510
—data errors detection – 7682
—networks (hierarchical) – 7675
—networks/information management systems – 9703
equipment
—directories (UK) – 10001
—ovens/incubators (proprietary) – 9655
information management systems
— 3656
—computers – 2192
—proprietary – 3641
powders handling, exposure/ventilation – 5353
research & development, Netherlands – 1371
testing, accreditation, Italy etc – 8843
Lacose
acquisition, by Corporacao Industrial do Norte – 6313
Lacquers
application
—emissions control – 8375P
—spray booths hazards – 2050
furniture, manufacturers (Italian) acquisition – 7869
furniture (wooden), tests – 8900
metallisation (vacuum), buy-outs – 4721
solvents, miscibility with heptane – 8893
stresses (internal), impregnants/lacquers, & conditioning – 6876
undercoats, standards – 4781
vegetable oils (condensed)/indulines etc – 1841P
Lactams
groups (pendent), heat-curables – 3305P
lactam lactones (tricyclic), curing agents – 131P
of tetrahydropyran, polyamides (monodisperse) – 8125
paint strippers – 8378P
polymerisation (anionic) – 2461
unsaturated
—emulsion polymerisation (water-in-oil) – 196P
—glycidyl copolymers – 6585P
Lactides
polymerisation (anionic) – 2514
Lactone Polymers
See lactones & polylactones
Lactones
See also polylactones
acrylates, carboxyl-terminated – 3274P
acrylates modified by, radiation-curables – 3009P
benzylidenelactones, polyimides from anhydrides & – 4098
copolymers, with carbonates, tapered – 857P
grafting
—on epoxy esters – 939P
—on epoxy/amine adducts – 864P
lactam lactones (tricyclic), curing agents – 131P
paint strippers – 8378P
polymerisation
—presence epoxy esters – 2528P
—side chains formation, simultaneous main chain free radical – 3260P
polymerisation (anionic)
—kinetics – 2394
—stereochemistry – 2411
polymerisation (cationic), review – 2401
products
—with epoxies (modified) – 4428P
—with epoxy compounds – 1173P
—with polyester-urethanes – 9140P, 9201P
unsaturated, polymerisation (group transfer) – 4047
Ladders
trays &, supports – 7507P
Lakes
azo pigments
—barium, carboxylated/sulphonated – 3116P
—naphthoics/benzenesulphonics, strontium salts – 772P
—strontium – 2270P
Laminates
adhesives (water-borne) – 5040
steel/resins/steel, plating outer – 2713P
wood, mechanical properties, glues effects – 4475
Lamps
flash, paint stripping – 1757
fluorescent
—ultraviolet radiation levels – 4609
—water-bornes then phosphorescent materials – 5790P
—weathering (artificial) – 2685
for ultraviolet
— 5416
—emissions levels/hazards – 4609
—halides/mercury in one – 5424
—monitoring – 7807
—near point source/three-dimensional objects – 5087
—types/choice/spectra – 7523
—types/non-electrode – 9847
reflectors, adhesives (thermosetting) – 5807
Lanthanides
See also rare earths
alloys, recording materials (magneto-optical) – 5066P
chromatography, review – 3691
polyether-ketones synthesis & – 1571P
production/producers/processing/uses/statistics – 2260
wood preservatives, fire retardance/biocidal activity – 2741P
Laporte Industries
acquisitions by, Terochem Laboratories/Dural International – 3893
profiles/history – 2210
Lasers
See also light scattering, Raman spectroscopy & spectroscopy
argon
—photoinitiators – 5464P, 5474P
—photoinitiators, coumarins/diketones – 5460P
chromic oxide manufacture – 6371
defects detection/assessment – 937
diffraction, line broadening/particles packaging domains – 2012
infrared
—chemistry/purification/separation using – 5670
—film thickness determination – 6985
ionisation spectroscopy (resonance) – 5289
marking, temp-indicating compsns – 1709P
metal coatings patterns by – 2157P
MS &, chemicals (org) – 2902
paint stripping – 1757
particle size determination – 8674

Lasers *(continued)*
photoresists
— 1321P, 9891P
—light (visible)/direct imaging – 4631
pulsed
—photopolymerisation, repetition rates – 7069
—photoresists, acrylics/absorbing groups – 1326P
—polymerisation kinetics – 9842
release coatings decomposition (deliberate) – 5895P
resists – 1325P
treatment with
—coatings, hardness/stain resistance by – 1752P
—corrosion resistance – 9456
—plastics – 8634
welding, coil coatings/vehicles (motor) – 3569
Lasurs
See also transparent coatings
acrylics – 453
moisture & – 9400
standards – 2229
types/permeability/diffusion – 5318
types/properties – 350
water-borne, ultraviolet absorbers, weathering – 5649
weathering (natural), standards – 2230
windows/doors, repair with – 308
Latex Paints
See emulsion paints
Latices
See also emulsions
acrylics, thickeners (associative)/surfactants & – 799
acrylics (carboxylated)
—amino groups – 4086P
—carboxyl location/rheology – 1240
—chain transfer agents effects – 2844
blends, field flow fractionation (sedimentation) – 6925
breaking, agents – 3156P
cationic, glycidyl copolymers/amines products – 854P
cellulose acetate, film formation/emulsifiers fate – 4535
cementitious coatings, before antifoulings – 6025P
chromatography (hydrodynamic, capillary), operating parameters – 9711
chromatography (hydrodynamic) – 1992
coagulation
—critical coagulant concentration – 6120
—seeds, salt particles as – 2551
coalescence, microwave spectrometry – 3717
composite, from monomers/preformed polymers – 9052
copolymers (carboxylated), dienes-based – 7594P
core/shell
—acrylics (fluorinated, carboxylated) on cores – 9067P
—acrylics/silyl groups – 4443P
—acrylics/silyl groups, primers – 6835P
—cores cross-linking/grafting/morphology – 2332
—dispersions (aq), acrylonitrile copolymers – 8221P
—electron microscopy, freezing samples for – 2896
—infrared spectroscopy, interfacial layers – 6933
—metallic finishes – 6816P
—metallic finishes (water-borne), acrylics – 9574
—morphology, factors/non-ideality – 2387
—paper coatings – 1839P
—paper coatings, dienes copolymers – 8493P
—polystyrene/acrylics, microstructure – 6435
—polystyrene/polystyrene, neutron scattering/segregation – 2381
—stresses (internal), modelling/stability – 6139
—swollen/unswollen size, sedimentation & – 4539
—water-bornes before imaging layers – 1016P
cross-linked
—ultrafine, water-bornes – 7394P
—water-bornes, fine particles – 5023P
dielectric properties, surface groups/volume fractions & – 5319
dienes (conjugated) copolymers, synthesis presence block – 4405P
electrocoating (cathodic)
—amino stabilisation/gel content restrictions – 5015P
—amino stabilisation/Tg over twenty – 5014P
electroless deposition on – 8055
electron microscopy, freezing samples for – 2896
field flow fractionation (sedimentation) – 6914
films, surfactants surface concentrations – 6115
fine
—acrylics, synthesis/colloids (protective) – 5725P
—conductive coatings – 5025P
—photopolymerisation for – 7078
flocculation, cluster size distribution/time/pH etc – 2041
flow, light scattering (quasielastic) & – 3628
graft copolymers, styrene/macromonomers – 498
interfaces, composition profiles at – 3621
light scattering, dissymmetry/aggregation – 6963
light scattering (dynamic), moderately concentrated – 7004
lobed, acrylics/rheology/paints/pigments binding – 2548
modified, monomers swelling/polymerisation – 7294P
monodisperse, synthesis, higher concentration – 8197
neutron scattering (small-angle) – 6103
non-spherical, polystyrene seeds/styrene – 7290
nucleation, emulsion polymerisation/nucleation – 9049
ordering in – 5321
particle size
—determination, methods – 2904
—in reactors, determination – 6138
—separation in capillary tubes – 8695
particle size distribution
—determination – 3734
—photon correlation spectroscopy – 3755
—turbidimetry – 6129
—ultracentrifuge/turbidity – 1259
particles (fine, cross-linked), film formation – 961P
particles (fine), polymerisation presence surfactants/sulphates – 1544P
polyacrylamide, from microemulsions – 1249
polybutyl methacrylate, surfaces, ESCA/SIMS – 3682
polymers (carboxylated), ion binding/osmotic pressure – 543
polystyrene
—deuteration/structure/conformation constraints – 6935
—ellipsoidal from spherical – 8069
—particle size control/studies – 7302
—sedimentation (density gradient) – 1260
—surface charge pH independent – 8066

Latices *(continued)*
polyvinyl acetate, viscosity, control by synthesis conditions – 3624
polyvinyl alcohol, polymerisation for – 843
proteins/polymers – 6437P
purification, ion exchange – 5015P
stabilisation, polymers adsorption thickness – 7702
stabilisation (steric)
—polyelectrolytes/depletion layers/flocculation & – 2932
—tragacanth gum, pH effects – 3762
suspensions
—flow, shear/light scattering – 2833
—ordering/temp gradients – 3730
synthesis, companies (US) modernisation – 7882
vinyl acetate polymers, stability, emulsifiers/comonomers – 6446
vinyl chloride copolymers, surfactants (external) free – 3348
voids, swollen/unswollen size etc – 4539
zeta potential – 3710
Laurates
stabilisers, hydrogen fluoride absorbers – 3147
Lauryl Methacrylate
copolymers, high-solids coatings – 212P
photopolymerisation, lasers (pulsed) repetition rates – 7069
Laws
See legislation & regulations entries
Leaching
antifoulants
—rate determination – 1993
—rates required – 3508
chromium, control – 6004P
polyvinyl chloride, methods/chemicals (toxic) – 7019
preservatives (copper/chromium/boron), temp/time – 5951
resistance
—linings, pipes – 4440P
—wood preservatives, fluoborates – 1820P
wood preservatives – 7212, 7212
Lead
air pollution, atmospheric levels limits – 4758
anticorrosive pigments coated by – 10P
corrosion, by sealants emissions – 1021
detection, in water, chromates solutions cloudiness – 3705P
determination
—AAS – 6355
—in air, AAS – 1424
—in blood, AAS – 1230
—in blood, matrix decomposition/voltammetry – 9691
—in paint, AAS – 8935
—in pastes/primers, polarography – 7690
—in polyvinyl chloride, AAS – 1211, 9660
—in solids, AAS (graphite furnace) – 3672
—in water (sea) – 532
—in water, AAS (furnace) – 7692
—in water, pg/fg levels – 1215
—laboratories comparison – 1936
—lobsters/MS – 1986
—quality control samples – 7677, 7695
—voltammetry/electrodes (modified) – 6932
—workplace/organisations (approved) – 7916
dusts containing, houses, variability/painting – 2976
ecotoxicological aspects, books/review – 9798
exposure
—kidneys – 4569
—sclerosis (multiple) studies – 7762
—surveillance (medical)/health – 4757
health & safety – 7220
in blood
—levels (UK) – 4689
—monitoring, – 1986/UK 2069
labelling
—of compsns, EEC directives – 3924
—of compsns, regulations (UK) – 3927
migration, toys, determination/limits – 8940
monitoring, regulations (French) – 718
monitoring (biological)
— 3765, 5599
—regulations (French) – 718
MS (secondary ion), analysis (trace) – 1980
neuropathy, testing, methods – 4571
neurotoxicity
—central nervous system – 7755
—dementia, studies – 3779
pigments containing, Europe/USA – 652
regulations (French) – 715
sampling, from effluents – 2870
soluble
—determination – 6353
—low, lead chrome pigments (treated) – 27P
—toys, testing/limits – 3944
water pollution, regulations (US) – 3082
Lead Carbonate
See also white lead
basic, coatings, pearls (imitation) – 9692
Lead Chromate
carcinogenicity, review – 9762
determination, road marking compsns – 8933
manufacture
—monitoring (biological) – 8733
—precipitation – 4825P
Lead Chrome Pigments
manufacture, presence aluminium salts/turbulence – 4825P
treatment, light resistance/low soluble lead – 27P
Lead Compounds
anticorrosives, replacement – 8398
carboxylates, anticorrosives – 8977P
health & safety data sheets – 4800
pigments containing, labelling, regulations (German) – 6325
products, with aluminium tripolyphosphate – 9231P
stabilisers, manufacture/exposure/monitoring (biological) – 5390
wood preservatives, isothiazolones & – 3539P
Lead Driers
See driers
Lead Poisoning
demolition projects, reduction – 3771
detection (predictive), zinc protoporphyrin values – 3765
historical/present day – 2956
painters – 2966
Lead Silicochromate Pigments
basic, replacement by calcium carbonate – 7949
Lead Sulphide
electrical insulation, latices/casein/paraffins & – 1823P
Lead-containing Paints
bridges, stripping, problems/measures – 3439

Lead-containing Paints *(continued)*
demolition projects, poisoning reduction – 3771
hazards, relative to petrol, history – 7058
labelling
—at less than quarter % – 3927
—lead values requiring – 8851
lead in, determination – 7690
regulations (European), effects UK historic buildings – 4766
replacement, paint systems – 3439
sanding/stripping, dusts – 2976
stripping, methods/dusts/buildings (domestic) – 2119
toys, regulations (UK) non-compliance – 1268
Leases
property (commercial), legal position Europe – 9986
Leather
simulation, soft-feel coatings – 9594P
ultraviolet-curables (water-borne), polyurethanes (unsatd) – 2998
water-bornes – 5216
Lecithin
anticorrosives – 9495P
FTIR – 3676
uses – 6396
Legionnaires' Disease
prevention – 8721
sources/countermeasures – 7011
Legislation
See also regulations entries
environmental
—Germany – 7210
—India – 584
—Italy/EEC – 6335
—Netherlands – 2224
—paint industry (European) – 5582
—painting (contract) & – 9984
—Spain – 6200
—specifiers (independent) & – 9362
—USA, situation/developments – 7202
Lenses
anti-misting coatings – 2756P
coatings, bismides/oxides sols – 9636P
from plastics
—abrasion-resistant coatings – 9553P
—adhesives (ultraviolet-curable) – 9902P
—coatings, silanes/epoxy silanes/acrylics – 2757P
Leon Frankel
resins, production expansion/plans – 7883
Levelling
agents, polyether-urethanes – 1617P
coatings, nitrile rubber – 6868
determination, draw-down – 8917
printing inks (screen) – 6862
Liability
See also product liability
Libraries
UK, addresses/holdings/services etc – 728
Licensing
– 2193
polyvinylidene fluoride, US companies – 6287
vapour curing, Ashland/Becker – 3055
waste facilities, UK – 1392
Lichens
asbestos cement &, biocides treatment/biocidal paints – 8338
promotion, coatings, nutrients/materials from – 9522P
stone, treatment against – 2735P

Light
sun, spectra, versus various lamps – 7523
visible
—curing &, adhesives – 2125
—iodonium/sensitisers/electron donors – 4658P
—photocurables, photosensitisers/activators – 7107P
—photoinitiators – 627P, 5474P
—photoinitiators, titanocenes – 4631
—photopolymerisables – 6234P
—photoresists – 9891P
Light Scattering
book chapters, principles, equipment, multi-component systems etc – 1962
colloids, flow, shear – 2833
combination, with photon correlation spectroscopy, angles & – 3715
critical, phase-induced, phase separation/polymers & – 1999
dispersions (concentrated), interactions – 6987
dynamic
—equipment/fibre optics – 7004
—latices, moderately concentrated – 7004
—particle size distribution – 5341
—particle size in reactors, on-line – 6138
—tributyltin acrylate copolymers – 6161
emulsion paints, clays (calcined) – 2257
emulsions, particle size distribution – 4548
laser
—epoxies – 6114
—epoxies/anhydrides reaction – 6165
—particle size/back-scattering – 6962
—polyvinyl acetate (branched) – 2002
latices, dissymmetry/aggregation – 6963
paper, theory, Kubelka-Munk/Stokes – 7633
paper coatings, Kubelka-Munk/anomalies – 9704
particle size
—calibration – 3745
—light absorbancy/anomalous diffraction – 3728
—multivalued region of functions – 8694
particle size distribution – 5341
particles (core/shell) – 7737
polymers/solvent blends – 2042
polystyrene, He/Ne gas lasers – 9740
polyvinyl alcohol, solutions/supermolecular formations – 5324
polyvinylpyridine, solvent blends – 3750
quasielastic
—colloids, flow & – 3628
—combination, field flow fractionation (sedimentation) – 3752
—epoxies, below gel point – 6160
—latices, ordering & – 5321
—parameters/optimisation of conditions – 3756
—principles/equipment/data analysis/artifacts etc – 9705
silica (treated), dispersions (charged) – 6153
small-angle
—lasers, combination with GPC – 1958
—lasers, combination with GPC, gelation – 4566
—lasers, GPC &, review – 5287
suspensions, contrast variations/silica particles (coated) – 7737
theories, coatings/pigments & – 5260
titanium dioxide/calcium carbonate – 6967
tributyltin acrylate copolymers – 6161
xanthan gum – 3739
zero angle depolarised, titanium dioxide/particle size – 6127

Light Stability
See also 'stabilisers, light' & 'stabilisers, ultraviolet'
acrylic/urethanes, & degradation mechanisms/stabilisers – 1055
epoxies, photolysis studies model compounds – 9421
fluoropolymers, antioxidants/hydrogen fluoride absorbers – 3147
ultraviolet-curables, polyesters/stabilisers – 1063
Light-curable Coatings
See photocurable coatings
Light-emitting Diodes
encapsulation, ultraviolet-curables – 5431
Lightfastness
anthraquinone dyes, fading accelerated by polymers – 491
azo pigments, ultraviolet absorbers bound some – 3115P
determination
—accelerated, aluminium (anodised, coloured) – 1444
—light through glass – 8924
dyes/stabilisers (light) – 3155P
isoindoline pigments – 7244P
isoindoline pigments (imino) – 7245P
mica (coated), by titanium dioxide – 2275P
paints, for artists, temp/photons effects – 7230
pigments (org), treatment – 34P
plastisols – 5900
Lighthouses
iron (cast), maintenance paints (water-borne) – 7517
Lighting
See also illumination & illuminants
equipment, transparent coatings – 1166P
Lightness
determination, with/without gloss, gloss assessment – 6028
Lightning
coatings &, ionisable, salts – 8520P
Lignin
derivatives, adducts with epoxies – 1564
hydrolysed, polyesters (unsatd)/epoxies & – 145P
modification, fungi/enzymes – 813
modified, by methanesulphonyl chloride – 8038
products, with epoxies – 7316
rust converters, coatings curing – 7492
sealants, siloxanes/polyvinyl chloride & – 6615
uses/breakdown products uses – 73
wood, FTIR (reflectance, diffuse) – 6089
Lignocelluloses
sugars from, pretreatment methods/enzymes – 4143
Limestone
See also calcium carbonate
patina, scialbatura – 5574
purification, comminution/flotation etc – 3971P, 3972P
Limpets
fouling control – 9518
Linear Accelerators
electron beam curing, equipment – 5117
Linings
asphalts, against water – 2766
directories (US) – 8381
for concrete, discontinuities detection – 8927
inspection, standards – 3947
mortars, sealers against alkali loss – 6620P
pipelines, application/corrosion inhibitors before – 8376P
pipes
— 7540
—application (in situ) – 9358
—epoxies, leaching resistance rapid – 4440P
—epoxies/improvers/thixotropy – 6018P
plants (chemical), developments – 8401
plastics (reinforced), tanks repair – 368
railway stock, hopper cars, application – 3090
scrubbers, monitoring/alternatives/maintenance – 7549
swimming pools, ageing/FTIR/compliance – 9664
tanks, fluoropolymers – 2707P
tanks (petrol), petrol (modified) effects – 7547
Linoleates
autoxidation, volatiles from – 786
curing, mechanisms – 8087
diffusion, in supercritical fluids – 4545
of polyethers, mono-/di-mixtures, NMR – 530
Linoleic Acid
Cupressus spp – 7253
from Plectranthus spp – 4853
polymerisation presence, chain transfer – 5731
products, with diamines, curing accelerators – 1573P
Linolein
mono-, in oils, oil oxidative stability & – 788
Linolenates
autoxidation
—dimers from, thermal decomposition products – 9678
—volatiles from – 786
diffusion, in supercritical fluids – 4545
peroxides/hydroperoxides, dimers from, thermal decomposition products – 9678
Linseed Oil
drying, viscosity changes/networks formation – 9644
heated, products – 7256
maleinised, water-bornes for wood – 7390P
oil paints, DSC, ageing/pigments etc effects – 5326
polyester-amides (modified) – 1613
statistics – 661, 3046
stone, treatment, against lichens/acid rain etc – 2735P
Lipids
HPLC, detectors – 1950
synthesis
—cell cultures – 39
—single cell, books – 739
—single cell, extraction/analysis – 37
Lipophilicity
polyurethane compsns – 5772P
Liquid Chromatography
columns, column performance evaluation, review – 527
combination, with MS, interfaces – 3642
detectors
—density – 7694
—electroluminescence, circuits/computers – 3673
—lasers excitation/ionisation – 1938
—overlapping peaks/spectra separation – 3698
directories – 5297
lanthanides, review – 3691
micellar, stationary phase modification/CMC – 2845
non-linear, band profiles, theory/experiments – 4493, 4494

Liquid Chromatography *(continued)*
organo-tins
— 1938
—in water – 2001
precision, interlaboratory studies – 1983
precolumns/sample pretreatment – 2880
preparative
— 5603
—sample size/volume optimisation – 7670
Liquid Chromatography, Reverse Phase
additives, identification/photodiode arrays/computers – 5300
non-linear, band profiles, theory/experiments – 4493
Liquid Crystals
diisocyanates (aromatic) – 6499
displays
—antistatic coatings – 1169P
—films, primers for – 3597P
—passivation films – 5129P
dyes in – 3113
encapsulation, temp-indicating inks – 5405
groups
—acrylics, cross-linking/high-solids – 4908
—alkyds, coatings – 8190
—pendent, polymers, types/uses – 8043
—pendent, stilbene-based, synthesis/properties – 7361
—polymers, coatings – 4167P
—polymers, coatings/review – 8046
—polymers, mechanical properties etc/coatings – 8046
—siloxanes, data storage (reversible) – 6608
—siloxanes, review – 8043
infrared spectroscopy – 1959
oligoesters, heat-curables, mechanical properties/Tg – 2386
photon correlation spectroscopy – 1965
polyesters
—block copolymers – 9090P
—recording materials – 281
—synthesis/properties – 8097
polyesters (aromatic) – 7339
polyesters (hydroxylated)/hydroxybenzoics products – 2414
polymers
—review – 2348
—treatment, plasma – 6644
—types, review – 3164, 3195
transparent coatings – 6002P
X-ray scattering – 1977
Liquids
See also fluids
convection, cells/solute accumulation – 4537
sampling, on-line, for infrared – 7650
Literature
See also information entries
Litharge
See lead oxide which can refer to other oxides
Lithium Acrylate
photocurables – 6217P, 6218P, 6219P
Lithium Compounds
hydroxides, mixed metals, clays modified by – 3998P
treatment with, epoxies – 4068P
Lithium Salts
coatings, acrylamide polymers & – 6015P
Lithographic Inks
See 'printing inks, lithographic'
Lithography
See also driography, 'printing inks, lithographic', 'printing, lithographic' & printing plates
Lithopone
properties/uses – 7944
Litigation
contracts etc, overseas/UK – 8863
Indian, phenolics, & arguments – 5530
paint defects, avoidance – 6289
patents (US), courts – 5589
US, accidents record-keeping – 6181
Livers
acetaldehyde – 572
cancers of
—solvents (halogenated) – 6185
—solvents, women/men – 3769
carbon tetrachloride, acetone/trichloroethylene with – 2949
cutting fluids – 1277
dimethylformamide – 7780
diseases, dimethylformamide exposure – 4602
dithiocarbamates – 5383
methylene chloride – 2088
phthalates – 4809
propylamines – 5372
solvents – 2076
toluene
— 2946, 4581
—exposure above limits – 2080
trichloroethylene
— 4599
—corn oil/aq gavage – 4595
xylene – 4581
Loctite Corp
adhesives, joint ventures, India – 7885
Lorilleux International
inks business, merger with Coates – 696
Low-alloy Steel
corrosion, equations – 5155
Low-friction Coatings
See also lubricating coatings & friction (low)
Lubricants
grinding (wet), addition to coatings – 1828P
inks (water-borne) – 3408P
proprietary, fluoropolymers powders – 1503
silicones/waxes, rub/migration resistance – 5030P
Lubricating Coatings
See also friction (low) & wire coatings (self-lubricating)
acrylics/corrosion inhibitors/water repellents – 3499P
cans
— 4453P
—silicones (bound) at surfaces – 1175P
dispersions (aq), silicones/waxes products – 5030P
drag reduction, liquid flow over – 4445P
drawing, temporary, fluoropolymers/monomers – 8539P
fluoropolymers
—formulation/properties/uses – 1130
—low MW, from fluoropolymers treatment – 5771P
for plastics, polyurethanes/beads/lubricants, no fouling – 3560P
for silicon, abrasion resistance etc – 4413
formulation/application – 4798
polyolefins/epoxies/fluoropolymers – 1154P
welding, epoxies/silicones/metal powders etc – 9620P

Luminescence
See also chemiluminescence
inks, europium chelates – 1015P, 1710P
Luminescence Spectroscopy
polymers, etc, review – 6888
Luminescent Materials
platinum metal complexes, 'bound' systems – 3796
properties/proprietary/uses – 4815
spectrometry (reflectance), D65 illumination – 2805
types/applications, books – 3955
Lungs
See also respiratory entries, respirators & inhalation
cancers of
—asbestos – 5369
—cadmium – 564
—epichlorohydrin workers – 6175
—formaldehyde – 2110
—silica – 7768
hexamethylene diisocyanate, biuret-modified & – 2048
methacholine inhalation tests – 2077
Lusol Group
acquisition, by Glasurit de Argentina – 675
Lusteroid Paints
acquisition by Croda
—agreed – 5559
—offers – 6308

M

M/S Fit-Tite Chemical Co
adhesives (speciality), joint ventures – 7885
Machinery
construction, finishing, plants/components – 5085
design/construction, health/safety, EEC directives – 8855
health & safety, EEC directives (proposed) – 4750, 4752, 6327
heat-curables, curing after installation – 6662P
reconditioning, & corrosion control – 8417
Macpherson Industrial Coatings Ltd
electrostatic spraying, demonstration facilities – 3069
Macpherson Paints
emulsion paints (solid), litigation by ICI – 5543
plants closure, Glasgow – 4723
Macromonomers
copolymerisation, reactivity/side groups – 6433
copolymers
—dispersants (polymeric) – 7972P
—pressure-sensitive adhesives – 6600P
copolymers (carboxylated), water-bornes – 956P
from aziridines (unsatd), synthesis presence polymers – 2375P
from methacroyl isocyanate/hydroxyl – 4096
from polymers (living)/chlorosilanes (unsatd) – 4028
grafting, on polyesters (unsatd) – 4182P
organo-lithium/epoxy compounds products – 115
oxazolines polymers – 4103
polyesters, copolymers fluoro-olefins – 8120P
polyethers, copolymers, viscoelasticity – 498
polyethers (fluorinated), polymers/release coatings – 9607P
polylactones – 4932P
polymers
—blends, mechanical properties – 2842
—dispersants (polymeric), pigment compsns – 780P, 781P
—dispersions, polyisocyanates & – 4115P
polymers (carboxylated)/aziridines (unsatd) etc products – 9528P
polymethyl methacrylate, synthesis – 4058
polymethyl methacrylate (carboxylated) – 8076
polyoxazolines – 9077
polystyrene
—norbornenes groups – 5684
—polymerisation/MW/radius of gyration – 7304
—polymers (comb)/resists from – 594
polytetramethylene glycols, acrylates – 3989P
silicones, copolymers, release coatings – 9619P
siloxanes
—antifoulings – 8472P
—composition distribution – 6104
—from initiators/cyclic – 5766
—from isocyanates (unsatd)/siloxanes – 926P
—polymers, antifoulings – 8463P, 8470P, 8471P
siloxanes (unsatd)
—from siloxanes (cyclic)/initiators – 193
—polyfunctional, copolymers (unsatd) from – 2493
—polymers, antifoulings – 8465P
—synthesis – 914
siloxanes (unsatd) copolymers – 3488P
star, from polymers (living)/chlorosilanes (unsatd) – 4028
suspension polymerisation, acrylates & – 5053P
synthesis
—from silyl ketene acetals terminated – 4041
—polymerisation (group transfer) – 4008
—polymerisation (ring-opening) – 4051
—review – 4014
Magnesite
titanium-containing, titanium dioxide from – 5622P
Magnesium
alloys, Mg/Li, chromate coatings – 5113
anodised, electrochemical measurements, coatings & – 8405
coatings containing, moisture scavenging – 6772P
conversion coatings, impedance/coatings & – 8405
Magnesium Carbonate
basic, fillers, calcium carbonate & – 25P
calcareous, extenders (proprietary) – 3
Magnesium Compounds
aluminium/hydroxide/carboxylate type – 9042P
coated, by polymers, acrylics matrices with – 4832P
Magnesium Fluoride
modified, phosphorescent materials, X-rays – 6215P
Magnesium Hydroxide
flame-retardant coatings, for wires – 2747P
powders (treated), manufacture – 5971P
Magnesium Oxide
oxides (mixed), Al/Mg/Zn, anticorrosives – 5168P
sealants – 284P
Magnesium Perchlorate
curing accelerators, for epoxies – 6946, 7002
Magnetic Coatings
acrylics (carboxylated), dispersibility factors – 2258
application, to films, equipment – 8361P
CPVC, determination/importance – 4541

Magnetic Coatings *(continued)*
electron beam-curables, manufacture, milling – 5452
ferric oxide (gamma-), dispersibility, polymers (functional) – 2927
manufacture
—grinding equipment – 1029P
—mills (ball) balls materials – 2624P
mechanical properties/durability, binders role – 4472
mechanical testing (dynamic) – 4473
phosphinates (polymeric), main chain metals – 3328P
polyurethanes/isocyanates/polymers (hydroxylic)/water, reactions – 4237
radiation-curables, acrylic/urethanes & hydroxylics – 2140P
water-borne, epoxies/modified polymers – 235P
wear resistance, ferric oxide dispersions – 9316P
Magnetic Discs
CPVC, importance – 4541
hard discs, coatings, epoxies/modified polymers – 235P
magnetic coatings, manufacture for – 2624P
Magnetic Fields
metal powders manufacture presence – 6378P
pipeline coatings etc monitoring – 4321
screening, pigments (flake), oxides (mixed) – 4822P
treatment with, water for oxides slaking – 6393P
waste water treatment – 9806
Magnetic Inks
pigment volume fraction, & % in cured – 4553
Magnetic Particles
iron, from oxide hydroxides (acicular, stabilised) – 1465P
iron oxide in pores, uses – 8054
treated, dispersibility – 7977P
Magnetic Pigments
agglomeration – 4550
barium ferrite – 6380P
coated, by copolymers, dispersibility – 5631P
decorative patterns, by magnets – 1865P
dispersion, monitoring/mechanisms – 4462
dispersions, dispersion/orientation characterisation – 4550
ferric oxide (gamma-), structure – 6376
flakes, iron alloys – 5635P
interactions, with polyester-urethanes – 4536
iron
—from oxide hydroxides (acicular, stabilised) – 1465P
—generation in situ, problems – 3958
iron oxide, manufacture/coatings againt sintering – 784P
iron oxide (flake, modified) – 2267P
metals, stabilisers – 8981P
volume fraction, & % in cured – 4553
Magnetic Properties
iron oxide (black), thin films – 5839
magnetic moment (saturation), CPVC & – 2933
microspheres (hollow), ceramics/silver-coated – 3570
Magnetic Recording
See 'recording, magnetic', 'recording materials, magnetic', magnetic discs & magnetic tapes
Magnetic Susceptibility
colloids, oxides (metal) – 1200
Magnetic Tapes
ageing, temp/humidity – 4235
coatings
—acrylics/siloxanes & siloxanes – 2800P
—amines/phosphates etc – 1713P
—manufacture, phosphates etc – 1714P
polyurethane coatings, dispersibility – 1018P
polyurethanes, blends – 8309P
wear resistance, ferric oxide dispersions – 9316P
Magnets
wire coatings
—polyamides/catalysts equilibriation – 6768P
—polyamides/polyesters/isocyanates – 6769P
—polyamides/titanates, solvolysis equilibration – 1821P
—types – 1102
Maintenance
bridges
— 8396
—concrete, costs/recommendations – 5929
equipment for, high-performance coatings – 365
offshore structures – 4304, 9415
pipelines
—exteriors, coatings/tapes, 'in the ditch' – 9448
—in situ, metal loss replacement/protection – 9365
plant etc, life extension analysis – 3460
properties (residential), expenditure (USA) – 3044
vehicles (motor), corrosion control methods – 4320
Maintenance Painting
aircraft – 9447
blasting (vacuum) – 7501
bridges, problems – 7548
costs/inspection/appearance/repair/durability – 5150
floors, planning etc/guidelines – 7470
food industry – 2760
mills (pulp) – 7482
paints selection, local authorities – 8504
plants (chemical) – 5132, 5149
predictive approaches, coatings selection/application – 1734
tanks, gases (liquefied), frozen layers removal – 9382P
tolerant systems, substrates/application conditions – 6646
Maintenance Paints
alkyds/sulphonates – 2677
anticorrosive pigments, ion exchange – 6698
cavitation resistance – 5245P
developments/forces/proprietary – 8397
emissions, volatiles (org), regulations (US) – 7201
epoxies/hydroxylic polymers, pot-life/drying time – 3470
high solids, performance/cost effectiveness/formulation – 7557
manufacturers (US), products etc/application – 7187
markets/types/statistics/forecasts, USA – 5516
proprietary – 5149
trichloroethane – 5638
vinyl polymers, formulation – 9426
volatiles (org), limits (Californian) – 9968
water-borne
—acrylics, advantages etc – 8382
—bridges etc, testing/specifications – 3463
—lighthouses/formulation – 7517
weathering, testing/performance prediction – 7518
Maize
See corn entries

Maleamic Acids
maleimides/polyamines & – 7352P
polymerisation, heat-curables – 4966P
Maleates
copolymers
—pressure-sensitive adhesives – 6596P
—stabilisers (light, bound) – 3157P
halogenated, glycidyl copolymers & – 438P
products, with glycidyl copolymers – 153P
Maleic Acid
polymers, antifoulings – 2740P
products
—& water-bornes – 250P
—with dicyclopentadiene polymers – 4020P, 4079P
Maleic Acid Copolymers
end groups, sulphonates, synthesis/use – 3263P
of styrenesulphonic acids, dispersants – 4878P
resists, halogenated compounds etc & – 3007P
synthesis, MW control by solvent blends – 9112P
water-bornes, polyacrylic acid & – 8203
Maleic Anhydride
adducts, with naphthalene (hydrogenated), polyimides – 4970P
copolymerisation
—kinetics – 846
—with acrylates, charge transfer – 4038
copolymerisation (alternating) – 3198
graft copolymers, primers before – 8751
grafting, on waxes – 1553P
polymerisation
—inhibitors/mechanisms – 103
—presence ethylene/olefins copolymers – 3217P
polymerisation presence, & amines – 107
products
—& water-bornes – 250P
—with aminosilanes (difunctional) – 4977P
—with dicyclopentadiene polymers – 4020P, 4079P
—with olefins – 4863P
reaction, with eicosane – 118
statistics/markets, Japan – 8815
substituted, sulphones groups, reactivity – 7996
synthesis
—capacity expansion – 5545
—catalysts – 791P
—from pentane, kinetics – 7257
—joint ventures, Spain – 7859
—joint ventures,Brazil/plants – 681
—joint ventures/plants (planned) – 5548
—plants (planned) – 3882, 3905
—plants, France (planned) – 7893
—plants, Japan – 2198
—processes developments – 3904
—supply/demand/prices/plants (planned)/capacity – 656
Maleic Anhydride Copolymers
end groups, sulphonates, synthesis/use – 3263P
flow control agents, powder coatings – 9046P
hydrolysed, water-bornes for glass fibres – 3592P
modified
—alkanolamines/diazoquinonesulphonyl – 7117P
—by alcohols (unsatd) – 4666P
—by alcohols (unsatd), curables – 7331P
—by aminobenzoic/unsatd glycidyl – 7827P
—resists – 3022P
—unsatd/photoinitiators groups, photoresists – 3024P
moisture-curables
—amines (blocked) & – 9203P
—heterocyclics & – 6539P
—polyamines (blocked) & – 3343P
of ethers (unsatd) – 8112P
of olefins
—high maleic, & esterification (partial) – 9115P
—synthesis, high maleic – 9114P
of styrene distillation residues, plasticisers for – 9009
particles (spherical), polymerisation for – 4934P
photoresists, polymers/unsatd compounds etc & – 5471P
products, with polyethers, dispersants – 8024P
synthesis, MW control by solvent blends – 9112P
treatment with, calcium carbonate – 3120P
viscosity (intrinsic) – 1901
Maleic Compounds
copolymers, coatings, carbon black & – 1159P
Maleimide Groups
cyanates
—heat-curables – 4964P
—heat-curables, other components & – 8141P
pendent, polyether-amides – 7345P
Maleimides
allyl groups
— 908P
—products with bismaleimides etc – 907P
antifoulants – 1100P
blends, with nitrile rubber, water diffusion/uptake – 1264
copolymers
—products unsatd glycidyl – 7827P
—resists, photosensitisers & – 3836P
—with vinyl chloride – 3594P
copolymers (alternating), resists – 8795P
cyanates groups, cyanates (polyfunctional) & – 901P
epoxies/amines & – 9118P
groups
—aniline-formaldehyde resins (substituted) – 4960P
—polyethers, products other polyethers – 1597P
heat-curables, dibenzalketones – 6507P
polyfunctional
—adhesives (epoxy) – 1699P
—electron beam-curable compsns – 2173P
—from aniline/dialdehydes products – 4373P
—polyamines &, suspensions formation – 9155P
—polyamines/maleamic acids & – 7352P
—synthesis – 6514P
polymerisation (anionic) – 2450
polymerisation (group transfer), scavengers removing hydroxyl – 4892P
polymers (living), two chains – 7293P
products, with cyanurates (unsatd) – 4971P
silylbutadienes & – 2782P
solventless coatings, pyridazines etc & – 256P
Maleo-pimaric Acid
reaction, with alcohols – 1521
Malic Acid
polyesters, synthesis/hydrolysis – 9084
Malonates
copolymers, solution properties – 5308
polyamides – 8135
Malonic Acid
derivatives, chlorides/esters, polyamides – 8135
Management
computers, computer integrated manufacture – 3048

Management *(continued)*
containers – 3789
corrosion – 2662
hazardous materials – 1451
job sharing – 3051
just-in-time
—automobiles finishing – 5089
—painting – 5086
—plants – 3050
—wood treatment industry – 3504
personnel, chemicals manufacturers (UK), workers' role changes – 2209
R & D
— 6283
—assessment, guides – 10002
safety, plants surveys – 9778
Toxic Substances Control Act compliance – 9982
wastes (hazardous) minimisation – 587
Manchem Ltd
zircoaluminates technology, from Cavedon – 4704
Manders (Holdings)
acquisitions by
—of distributors/sites – 3885
—of Johnson & Bloy inks business – 7159
—of Johnson & Bloy inks/subsidiaries – 2202
financial performance – 5542
Manders Group
acquisitions by, of QC Colours – 4729
Mandrel Bend Tests
epoxies, rebars – 7551
standards – 8882
Manganese Carbonyl
initiators, polymers (halogenated)/monomers & – 4024
Manganese Compounds
antifoulings, copper materials & – 8476P
pigments, silica etc &, from wastes – 4834P
Manganese Dioxide
ores, anticorrosive primers – 1759
oxides (mixed), infrared emission coatings containing – 2785P
Manganese Driers
See driers
Manganese Ethylenebis(dithiocarbamate)
See maneb
Manganese Phosphate
acidic, air-drying coatings, phosphates layers formation – 7536
Manganese(III)
initiators, grafting on saccharides – 8176
Mannich Bases
electrocoating (cathodic), polymers/cross-linking agents & – 8208P
polymeric, photosensitisers – 1289
Mar Resistance
coatings, for plastics – 4408P
Marble
See also calcium carbonate
adhesion to, adhesion promoters – 3457P
cleaning/conditioning – 4450P
patina, scialbatura – 5574
purification, comminution/flotation etc – 3971P, 3972P
restoration, cyanoacrylates/siloxanes/microspheres – 5232P
Marble Effects
polyesters (unsatd)/silamethylene silanes/ground brick – 8524P
techniques – 6633
techniques/materials – 320
Marine Coatings
biocides, dithiolones/thiocyanates/isothiazolinones – 1814P, 2738P
cathodic protection &, paint systems/overvoltage – 2670
companies, E/SE Asia – 5520
drag-reducing coatings, reduced audio noise – 4445P
epoxies
—glass flakes/white tar etc & – 4343P
—white tar/stainless steel flakes & – 4342P
epoxies/polymers (amino-functional) – 403P
joint ventures – 3912
manufacturers, acquisition – 2207, 3916
manufacturers (Belgian/Egyptian), joint ventures – 7891
manufacturers (Italian)
— 5537
—joint ventures – 9936
manufacturers (UK), profiles/products – 672
paint industry (US), constraints/problems – 2716
polysaccharides (microbial), from bacteria (marine) – 7416
proprietary – 8397
requirements/types etc – 5154
types/developments – 1133
volatiles (org), compliance systems – 5134
Marine Corrosion
bacteria (sulphate-reducing), review/calcite films/cathodic protection – 5138
coastal, iron (wrought), historical/one year tests – 8384
concrete (reinforced), fouling & – 7539
control
— 9418
—cathodic protection/overpotential/coatings – 369
—petrolatum tapes – 9407
mechanisms/testing, test environments – 5911
micro-organisms &
— 7934
—green rust – 5917
pipelines, risks assessment/computers – 386
rates, fouling & – 6727
rebars – 5916
resistance, glass flakes/white tar etc – 4343P
simulation, rebars, bending/coatings damage – 9479
testing
—cages below offshore structures – 2733
—salt spray etc v sea water/marine – 3476
zinc coatings, salt spray tests & – 8380
Marine Environment
anticorrosives
— 4307
—sulphonates/fatty acid esters/lecithin/oils – 9495P
cementitious compsns, corrosion resistance – 1805P
coastal
—concrete (reinforced) – 9440
—effective distance inland – 2661
—simulation, sand blast/salt spray – 5904
—tropical conditions, anticorrosives – 9452
—weathering (accelerated) testing for – 9430
—zinc/silicate paints, topcoats (various) – 2666
coatings against algae – 423P

Marine Environment *(continued)*
concrete, investigations/design/maintenance/corrosion etc – 9466
concrete (reinforced)
— 9405
—repair, testing prisms – 2692
corrosion, salt spray etc tests & – 3476
corrosion/maintenance/inspection/repair – 3954
exposure, macroscopic examination (early), parameters – 9404
lighthouses, maintenance paints (water-borne) – 7517
organo-tins, toxicity/monitoring/fate etc, review – 2726
weathering (natural), metals (coated) – 1773
zinc (sprayed), performance/topcoats over – 1776
zinc dust paints, performance/topcoats over – 1776
Marine Organisms
as antifoulants in paints – 9519
biodeterioration, conference papers – 7934
Marine Pollution
See pollution (marine), water pollution & pollution
Market
See also individual materials
Marketing
anticorrosives, UK/Europe – 6282
by telephone – 5532
companies (European), to USA – 2193
decorative coatings – 5531
EEC – 646
equipment, to paint industry, advice – 4701
filling compsns etc manufacturers – 9942
instructions/safety information with products – 2240
paints
—cans design – 5519
—formulation &, world differences – 6286
—France, statistics/shares/advertising – 6279
printing inks, Du Pont/Toyo Ink – 6299
wholesalers/paints &, databases – 4699
Markets
See also individual materials
Marking
cobalt compounds/glycerol/molasses – 3407P
cylinders (gas) – 3431
floors/sports areas etc – 449
invisible, heat/ultraviolet rendering visible – 2606P
lasers, temp-indicating compsns – 1709P
Marking Inks
for plastics – 9321P
silicones (linear)/silicones (branched) products – 9321P
Marubeni
joint ventures, Occidental Chemical &, vinyl chloride – 690
Mascradri-Arsonsisi
acquisition, of majority holding, by Junghanns – 687
Masking
films (polymer), treatment so paint adheres – 1741P, 1742P
for powder coatings, heat resistance – 6651
materials (proprietary) – 7009
Masonry
coating absorbing, resins/beads – 5998P
coatings
—'Which' reports – 6805
—biocides – 8455
—book chapters – 743
—substrates/selection/use – 5990
—types/physics/defects/protection etc – 3567
exterior, algae, tropical conditions, & control – 3526
painting, specification/defects prevention/coatings selection etc – 9412
Mass Spectroscopy
additives, polymers &, review – 9694
air, sampling – 2876
analysis (trace) – 2881
automation, computers – 6953
combination
—in HPLC, arsenic – 5279
—with chromatography (supercritical fluid), waxes – 4497
—with GC/FTIR, library, searching – 9668
—with GC/FTIR, quantitation – 9683
—with HPLC – 6063
—with HPLC, water samples/extraction & – 1913
—with isotachophoresis – 4527
—with liquid chromatography, interfaces – 3642
—with MS, atmospheric pressure ionisation – 4505
—with MS, Fourier transform/MW – 3688
—with pyrolysis/GC, linoleates/alkyds – 8087
—with pyrolysis/MS, review/composites – 1981
—with thermal analysis, volatiles/degradation – 3714
—with thermogravimetry, techniques/advantages/polymers – 6924
computers, data acquisition/processing, networks/separate CPUs – 1218
desorption/ionisation, technique/uses – 1939
epoxies, curing/modelling/intermediates – 6081
epoxy resins/glycidyl compounds – 3661
equipment, developments/software/on-line use – 6082
equipment (proprietary) – 6953
fast atom bombardment, surfaces, polymers etc – 2848
fatty acids, collision-induced decomposition, mechanisms – 2893
field desorption, polymers – 3714
Fourier transform, theory/combined techniques/others – 6046
ionisation, single-/multi-photon – 6937
ionisation methods, developments, review – 1197
laser desorption, silanes (polymeric) – 7678
laser ionisation
— 7653
—polymers/expert systems – 6915
laser microprobe
—combination with microscopy, paint defects – 3649
—samples on filters – 6909
lasers &, chemicals (org) – 2902
phthalocyanines, & GC/MS – 8611
plasma (inductively-coupled)
—analysis (trace)/lobsters – 1986
—HPLC & – 6106
polymers
— 1957
—analysis, techniques/review – 9694
resonance ionisation – 5289
secondary ion
— 7687
—adhesives/plastics failure surfaces – 2847
—analysis (trace), microdroplets – 1980

Mass Spectroscopy *(continued)*
—cellulose ethers – 6903
—galvanised steel/coatings, interfaces/SIMS – 9721
—imaging, microscopy – 4509
—latices – 3682
—polymers – 6950
—polymers, developments/uses – 3657
—polystyrene, silver cationisation – 6085
—polyurethanes – 6918
—principles/metallurgical samples/advantages, review – 3664
—principles/polymers – 1918
—release coatings/release additives – 8764
—siloxanes – 6918
—surfaces, polyether-urethanes – 1953
—surfaces, polymers etc – 2848
—time-of-flight – 3657
spectra, databases/constituent spectra evaluation – 6083
time-resolved data, curve resolution – 1233
Master Builders Technologies
maintenance paints etc, products/application – 7187
Mastics
epoxies
—maintenance painting – 5150
—testing – 3462
pipes, bacteria &, effects – 9514
water-borne, polyvinyl acetate/nepheline/graphite – 9328P
Matsushita Electric
joint ventures, epichlorohydrin – 6311
Matt Coatings
See also photocurable coatings, powder coatings & ultraviolet-curable coatings
electrocoating (anodic), silyl groups/pigments (flake) – 8216P
emulsion polymers, from seeds/absorbed monomers – 5672P
flow control agents – 493
for hardboard, weather resistance – 6688
for plastics, after metallisation – 6827P
gloss, assessment via lightness – 6028
heat resistance, epoxies (linear)/amino resins – 9604P
powders/fibres, & silica/mica – 1077P
silica capsules – 1514P
water-borne, microgels – 968P
Matting Agents
electrocoating
—microgels, hydrophilic exteriors – 69P
—polymers powders – 247P
electrocoating (anodic), microgels (cross-linked) – 967P
emulsion polymers, large – 4891P
microgels (cross-linked) – 968P
polyesters, manufacture by dissolution – 3365P
siloxanes powders – 4985P
ultraviolet-curables, various/testing – 4868
MaxFin Group
acquisitions by
—control Colorificio Corti – 6303
—of De Beer Lakfabrieken – 9938
profiles – 5537
Maximale Arbeitsplatzkonzentrationen
See maximum allowable concentrations
Maximum Allowable Concentrations
See also threshold limit values, Technische Richtkonzentrationen, Biologische Arbeitsstoff-Toleranz-Werte, biological exposure limits & exposure limits
Dutch, new/changed, values – 4612
German, lists – 4615
propylamines, mono-/tri- – 5372
McLeod Russel PLC
acquisitions by, of Granyte, offers – 1381
Mechanical Properties
See also thermomechanical entries
acrylics/urethanes, acrylates (polyfunctional) & – 6214
adhesives (acrylic, toughened) – 6581
adhesives (cyanoacrylate, modified) – 2837
adhesives (epoxy)
—cross-linking/Tg – 1190
—moisture in uncured – 3623
adhesives (structural) – 7699
asbestos cement, ageing & – 7639
coatings
— 9650
—during film formation – 5307
—optical fibres – 5309
—polyesters/amino resins – 8558P
—tension/acoustic emissions – 2835
determination, phenol/resorcinol-formaldehyde resins – 4475
dynamic
—electron beam-curables, pigments – 1186
—epoxies (cured) – 2416
—latices, interfaces – 3621
—polyether-urethanes – 2464
—polyether-urethanes, urea treatment – 1887
—polymers, reacting systems/kinetics – 6036
—polyurethane coatings (oil-modified) – 8603
—review – 1891
electron beam-curables, pigments – 1186
epoxies (cured), diamines type – 2408
epoxies (toughened), polyether-imides – 6035
epoxies/plasticisers (internal) – 8593
epoxy/novolacs – 6140
ethyl silicates – 3218
fracture, paint films on foils – 1897
heat-curables
—oligoesters (liquid crystals-type) – 2386
—polyesters (modified) – 2414
interpenetrating networks
—acrylics/polyurethanes – 2828
—coatings – 4889, 8604
—of semi type – 3187
magnetic coatings, binders role – 4472
novolacs, curing agents (proprietary) – 5263
optical fibres (coated)
—ageing/alkali resistance & – 7070
—gamma-rays effects – 8594
packaging materials, plastics (coated) – 5975
paints films, review – 7644
paper coatings etc, insolubilisation & – 4395
plastics, coatings effects – 5976
plastics (toughened) – 4884
polyesters (cured) – 1892
polyesters (unsatd), from wastes – 2840
polyether-amides (segmented) – 5809
polyether-urethanes, urea treatment – 1887
polymers
—blends, graft & block – 2842
—liquid crystals groups – 8046

Mechanical Properties *(continued)*
—strength/toughness, review – 1905
polymers (hydroxylic)/anhydrides, curing (ambient) – 9758
polymers (toughened), tough/brittle transition – 6880
powder coatings, titanium dioxide grades effects – 4819
rubber (synthetic), blends, hydrogen bonds – 7640
sealants, temperature (low) – 8602
siloxanes (hydroxylic)/isocyanates products – 5768P
styrene/butadiene copolymers, silica (modified) – 6372
wire coatings, heat &, modelling – 6864
Mechanical Testing
acoustic emissions – 6997
dynamic
—acrylates (polyfunctional) polymers – 5720
—adhesives etc/viscoelasticity – 1189
—automation/temp/frequency – 4476
—curing – 2827
—epoxies/melamine – 2908
—gelation/dynamic scaling – 8598
—interpenetrating networks (semi-), & damping – 2836
—interpenetrating networks, ionisable groups – 6426
—magnetic coatings – 4473
—methods – 1891
—oligomers (reactive) – 8589
—plastics/coatings, high-speed testing – 2838
—polymers/coatings – 1191
—polymers/MWD/crossover modulus – 6878
—pressure-sensitive adhesives – 499, 8584
—pressure-sensitive adhesives formulation – 5045
—temp &, coatings/Tg/factors – 3716
—use of range of frequencies, adhesives field – 9752
Mechanopolymerisation
See polymerisation (mechanically induced)
Melamine
derivatives, vinyl/alkyl, products with acrylics – 5459P
methylolated, products with acrylates/lactones products – 6236P
plants, expansions (planned) – 4702
reaction, with bisphenol A/formaldehyde – 2444
synthesis
—plants (new)/joint ventures/world capacity – 6309
—plants (planned), Netherlands – 7873
—plants/statistics/forecasts – 5523
Melamine Phosphates
flame retardants, comparison others – 6780
Melamine Resins
See also acrylic/melamine resins & alkyd/melamine resins
adhesives
—modifiers content determination – 1402
—non-volatiles determination – 1403
—starch (amylaceous) detection – 1400
alkoxymethylated, coatings, polymers (hydroxylic) & – 9497P
blends, with phenolics, water-bornes – 2535
butylated
—dispersants (reactive) for NADs – 4998
—hexamethoxymethylmelamine v – 5741
—methylated, advantages/high-solids coatings – 1606
carbamates groups, cross-linking agents – 8133
coatings
—polyesters & – 8542P
—polyurethane-ureas (hydroxylated) etc & – 4409P
—repair painting for – 4452P
cross-linking, melamine resins clustering – 9642
detackifiers
—overspray treatment – 7508P
—overspray wash treatment – 8746P
epoxy groups
— 8589
—high-performance coatings – 1608
etherified, thick coatings – 4420P
gels, sulphites/aldehydes etc & – 1629P
high-solids coatings, catalysts in NADs – 9212P
metallic finishes, basecoats, wet-on-wet over – 4435P
microencapsulation by – 5064P
modified, monomeric/polymeric, coatings – 463P
products
—with acrylates (hydroxylated) – 8148P, 8149P
—with amino resins – 952P
—with phenol/urea-formaldehyde – 1624P
—with polyester acrylates (hydroxylated) – 8148P
proprietary, emissions reduction – 8191
reaction, with polymers (hydroxylic), chemistry/kinetics – 6050
scratch-resistant coatings – 9614P
statistics/markets/forecasts, Europe/USA etc – 6257
synthesis, conditions/characterisation/reactivity/coatings – 7338
synthesis/composition/viscosity etc – 6494
synthesis/raw materials etc, review – 3280
Melamine-Formaldehyde Condensates
oligomers, structure/NMR – 507
Melamine-Formaldehyde Resins
See also Benzoguanamine/Melamine-Formaldehyde Resins, Cresol/Melamine-Formaldehyde Resins & Phenol/Melamine-Formaldehyde Resins
butylated, butoxy groups determination – 6067
cured, structure/NMR – 507
detackifiers, overspray treatment – 4627P
etherified, butoxy groups determination – 1969
formaldehyde in, determination, bound hydrolysis – 6954
overspray treatment with – 5395P
products, with siloxanes (cyclic) – 1798P
properties – 4956
sulphonated, synthesis/aq solutions – 8143P
Melamine/Urea Resins
– 3280
Melts
See also hot melts
fluoropolymers, rheology – 3620
gels/agglomerates etc in, detection (on-line) – 6142
polymers
—confined, molecular dynamics simulation – 8582
—rheometers (elongational), review – 4463
polymers (cyclic), Monte Carlo simulations – 8697
polyolefins, stabilisation – 3144
Membranes
micropores, on paints, fouling control – 9523P
Menthanediamine
polyamides, synthesis – 893

Mercaptan Groups
acrylates, synthesis/uses – 4134P
adhesion promoters – 9571
epoxies modified by – 195
ethylene copolymers, coupling agents – 6416P
ketimines, electrocoating (cathodic), epoxies & – 229P
organo-silicons, ultraviolet-curables, unsatd & – 9855P
silanes
—amides links, ultraviolet-curables – 3826P
—moisture-curables blistering prevention – 6420P
—siloxanes (unsatd/mercapto) & – 5485P
triazines, mercaptans groups &, complexes – 3524
Mercaptans
adhesives (radiation-curable), polyether-urethanes (unsatd) & – 5470P
chain transfer, re-initiation constants – 4044
chain transfer agents
—addition start/during – 9072
—MW etc effects – 2844
—transfer constants/consumption – 90
curing agents
—for epoxies – 842
—on oxides – 7590P
emulsion polymerisation presence, effects – 834
initiators, for styrene/maleic – 3236
polyfunctional
—curables, isocyanates groups & – 200P
—products with unsatd compounds – 3327P
products
—with acetals (cyclic) – 899P
—with acrylates (ether-linked) – 1636
—with acrylic monomers – 3982
—with isocyanates, coatings – 7365P
stabilisers, for moisture-curables – 1653P
vapour curing presence – 898P
Mercaptides
inks, resin acid salts etc & – 8298P
printing inks (screen) – 8297P
Mercaptocarboxylates
unsaturated
—copolymers, epoxies/steel adhesion – 6039
—copolymers, interactions with steel – 5650
Mercaptocarboxylic Acids
esters, epoxies & – 1583P, 1584P
Mercaptosuccinic Acid
benzothiazole derivatives, corrosion inhibitors – 2655
thioethers
—benzothiazole groups, corrosion inhibitors – 2656
—corrosion inhibitors – 6750P
Mercuric Iodide
catalysts, polymerisation (group transfer) – 4042
Mercuric Oxide
analysis – 8879
Mercury
See also organo-mercury compounds etc
determination
—laboratories comparison – 1936
—lobsters/MS – 1986
emissions, vinyl esters synthesis, treatment – 4618
health hazards – 2095
migration, toys, determination/limits – 8940
neurotoxicity, central nervous system – 7755
sampling, from effluents – 2870
toxicity/pollution/uptake etc, review – 9800
uptake etc/monitoring (biological)/toxicity – 5599
wood preservatives, EEC directives (proposed) – 8850
Mercury Compounds
wood preservatives, isothiazolones & – 3539P
Metal Coatings
patterns, polymers (carboxylated) salts irradiation – 2157P
spraying, primers, particles/binders – 1141P
Metal Flake Pigments
See also 'pigments, metallic'
anticorrosives, review – 2250
leafing, water-bornes, stabilisation – 3349P
Metal Ions
migration, control by heterocyclics – 2743P
Metal Powders
fine
—manufacture from salts – 20P
—on semiconductives on non-metallics – 1784P
heat-resistant compsns – 6010P
interactions, with initiators – 9088
manufacture
—diketones complexes reduction – 6389P
—salts solutions reduction – 6378P
microgels with cores of – 969P
Metalbox Packaging
acquisition, by Carnaud – 1373
Metallic Effect
bronzing, materials/techniques – 5099
translucency, epoxies/microspheres/aluminium flakes – 6840P
Metallic Finishes
air-drying compsns, binders/cellulose ethers – 6821P
aluminium pigments (flake, coated) – 8995P
aluminium powders, granules/flakes – 1857P
basecoat/clear
—abrasion/weather resistance – 1165P
—appearance, roughness/thickness & – 5312
—application (wet-on-wet) – 4435P
—application (wet-on-wet), tackifiers – 1856P
—benzotriazole derivatives (liquid) – 3997
—over electrocoating, powder coatings – 8188P
—over electrocoating, powder coatings topcoats – 8187P
—popping avoidance in clear – 874P
—reflectance/models/angle dependence – 2817
—ultraviolet absorbers comparison – 3997
—wet-on-wet, basecoats, acrylics – 2792P
—wet-on-wet, basecoats, no primers needed – 4430P
basecoat/intermediate/clear, mica/aluminium then mica – 2786P
basecoats, acrylics (self-crosslinkable) – 5234P
coatings on metals (sprayed) on particles/resins – 8433P
colour difference, determination/instruments – 1181
cratering, causes, MS (laser microprobe)/microscopy – 3649
dispersants, bisimides – 8993P
electrostatic spraying – 1857P
flow control agents, NADs – 9211P
high-solids
—microgels (reactive) – 2336
—NADs, particles blends/solvents blends – 5778P
iron oxide (flake, modified) – 2267P
metallics over colour, then clear, irregularities avoidance – 7512P, 7513P
mica (coated), by metals – 9578P

Metallic Finishes *(continued)*
mirrors, protection, radiation-curables – 632P
NADs – 9210P
one-coat, aluminium simulation – 4426P
orientation in, application/thixotropy index – 3579P
pigments (flake)/powders, not mica – 8537P
pigments (org)
—coated – 5625P, 5626P
—coated by oxides – 5624P
powder coatings, flakes bonded to powders – 7400
silyl groups/carboxylated etc copolymers – 1860P
simulation, transparent coatings/reflective substrates – 2783P, 2784P
spraying
—flakes orientation, impact/drying – 2819
—problems – 3578
spraying (high-speed) – 9356
stabilisers (light), oxamides – 1504
titanium dioxide – 9586P
topcoats, NADs – 1866P
transparent coatings, wet-on-wet, over metallic – 7512P, 7513P
two-tone, overcoating, two booths – 1740P
USA/Europe, current practice/aluminium pigments – 3578
volatiles replacement (partial), by polyethers – 6402P
water-borne
—acrylic/melamines – 1666P
—acrylic/melamines etc – 957P
—basecoats, acrylics synthesis, flop/gloss – 4174P
—basecoats, gel-type binders/core shell – 8517
—clear over, NADs/dispersants (polymeric) – 1151P
—flow control agents/colloids (protective) – 3149P
—for asbestos, roofs – 6816P
—latices (core/shell), acrylics – 9574
—latices (core/shell)/latices/micaceous titanium – 6816P
—leafing, stabilisation – 3349P
—microgels – 5785
—microgels (reactive) – 2336
—microparticles (cross-linked) – 5787P
—polymers/carbonyl groups/hydrazides – 6553P
—polymers/polymers particles – 970P
—polyurethanes – 2773P
—topcoats, NADs, acrylics – 1867P

Metallic Inks
See inks & printing inks

Metallic Pigments
behaviour, in inks – 7233
bonding, to powders, powder coatings – 7400
temperature-indicating paints, resins & – 4446P

Metallic Printing Inks
See printing inks

Metallisation
electron beam-curables – 5522
paper, direct/transfer, & electron beam-curables – 5437
plastics
—bonding to paper – 5039
—clear coats (coloured) – 2754P
—matt coatings, talc etc – 6827P
—ultraviolet-curables over, oxanilides etc – 9887P
ultraviolet-curables over, phosphates (unsatd)/silanes etc – 3849P
vacuum, lacquers manufacturers buy-outs – 4721

Metallocenes
polymeric, helical hydrocarbon units/molecular solenoids – 8158

Metals
See also lanthanides, rare earths &, in addition to metals (trace), under analysis (trace)
adhesion to, organics, chemical aspects/binding forces – 2825
atomic emission spectrometry, plasma (inductively-coupled) – 1232
coatings, thermoplastics, types/advantages – 1129
degradation in contact with, polyethers/prevention – 873P
fibres, orientated, adhesives/heating (induction) – 9286P
films, by electrodeposition/separation – 1739P
finishing, handbooks/directories – 4798
foils
—adhesives/coatings layers, for automobiles – 474P
—flakes, coatings – 8555P
—matt coatings – 9604P
—water-bornes, nitrocellulose – 7396P
fumes, neurotoxicity – 8711
heavy
—AAS, sludges/sample preparation – 3703
—analysis (trace), laboratories comparsion – 1936
—artists/rheumatism/scleroderma – 1276
—biocides, building materials – 5171P
—central nervous system – 7755
—determination in water – 1212
—in particulates, extraction – 3675
—monitoring (biological), water loading & – 7752
—plating, then electrocoating, same bath compsns – 973P
—removal, from water (waste) – 7059P
—toxicology/monitoring (biological) – 5599
—toys, determination migratable, & limits – 8940
interfaces, with polymers, study techniques – 9753
monitoring (biological) – 5599
sheet
—weldable coatings – 2711P
—yearbooks – 2243
soluble
—extraction, standards – 6356
—toys, extraction tests/limits – 3944
trace
—AAS (graphite furnace) – 3685
—determination in blood etc, review – 1230
—determination in water (sea) – 532
—monitoring, water (sea) – 533
transition
—catalysts for epoxidation – 7258
—catalysts, polymerisation – 3215
treatment, with ions/lasers – 9456
treatment (chemical), review – 6649

Metamerism
illuminants (various), sets, analysis, multivariate statistics – 3603
matches under various illuminants, calculations – 5255
questionnaires, results – 3604

Metering
flow, two/several phase flow – 5261
powders
—equipment (proprietary) – 6625
—gravimetric feeders – 4251
pumps, automation – 4250
pumps (diaphragms), leakproof – 8321

Meters
remote-readable, sealants (ultraviolet-curable) – 7809
Methacroyl Isocyanate
polymerisation (free-radical) – 4096
products, macromonomers – 4096
Methacrylamide
polymers (carboxylated), aminocarboxylic-modified – 2480P
substituted, copolymers, synthesis, acrylates/urea – 8218P
Methacrylates
of ethers/alicyclics, synthesis – 4076P
Methacrylic Acid
copolymerisation, parameters, & coatings – 1137
emulsion polymerisation (surfactant-free) presence – 104
interpenetrating networks, siloxanes & – 8682
photopolymerisation, kinetics – 7072
photopolymerisation (template) – 112
polymerisation, presence phosphorus acids – 1575P
products, with fatty acids etc, alkyds (modified) – 5796P
styrene microemulsions polymerisation presence – 8048
Methacrylic Acid Copolymers
of difunctionals etc, thixotropic agents – 4000P
photoresists – 8798P
powders, sulphates/sulphonates &, self-emulsification – 2429P
sulphonated, by reaction ammonia/formaldehyde/bisulphites – 4194P
synthesis, latices (monodisperse) – 8197
Methacrylonitrile
copolymers
—dispersions (aq) – 8220P
—latices (core/shell), dispersions (aq) – 8221P
polymerisation, initiators (polymeric) – 1533
Methacryloyl Chloride
polymers, products with allylamines – 4955
Methanesulphonyl Chloride
reaction, with lignin – 8038
Methanol
costs, increase – 3037
hazards/toxicity/uses/properties/safety – 7221
impurities, detection – 8891
photo-oxidation, on titanium dioxide – 1464
waste water, formaldehyde &, treatment – 5389
Methoxystyrene
copolymers, end groups – 3221
reactivity, to benzoyloxy radicals – 3221
Methyl Acrylate
arylation, by iodonium – 2286
grafting, on polyvinyl alcohol, mechanisms/phases – 3201
hydrolysis, via adducts – 7989
products, with mercaptans – 3982
toxicity, chromosome aberrations, lymphoma cells – 2098
Methyl Acrylate Copolymers
composition, NMR (Fourier transform) – 3704
of styrene, composition distributions – 1567
synthesis
—continuous processes, modelling – 3200
—emulsion polymerisation, modelling – 4023
—particle formation locus – 116
Methyl Ethyl Ketone
exposure, xylene &, uptake/monitoring (biological)/interactions – 2090
inhalation, uptake/blood elimination – 5368
mutagenicity, studies – 9787
neurotoxicity, with/without acetone – 4576
purity, GC – 8904
synthesis, plants, replacement/expansion – 4706
Methyl Hydroxymethylacrylate
copolymers, reactivity ratios/properties/cyclisation – 5707
Methyl Isobutyl Ketone
mutagenicity, studies – 9787
Methyl Isobutyl Ketone Peroxide
synthesis/use, low MW polymers – 135P
Methyl Isocyanate
toxicity – 2060
Methyl Isopropenyl Ketone
polymerisation, reactivities/end groups – 1557
Methyl Linoleate
autoxidation
—fructose/metal salts effects – 42
—inhibitors, amines as – 9003
—NMR (carbon-13) – 1213
—tocopherols, anti-/pro-oxidant effects – 9004
films, curing, kinetics/mechanisms – 7254
Methyl Linolenate
films, curing, kinetics/mechanisms – 7254
Methyl Methacrylate
capacity/demand/plants expansions – 5505
copolymerisation
—acrylates (polyfunctional)/cyclisation/gelation – 6451
—reactors in series – 8105P
—with maleic, charge transfer – 4038
copolymers
—anthracene groups, photochemistry – 3801
—azo sulphonates groups, water solubility/insolubilisation – 9841
—compositions, NMR (Fourier transform) – 3704
—emulsion paints, for wood – 2789P
—pyrolysis/GC – 6944
—statistical, phase structure/Tg – 8060
—sulphonated oximes groups – 3812
—water in, state/temp – 2889
copolymers (carboxylated), photoresists – 5471P
dispersion polymerisation, non-aq media/stabilisers – 6453
emulsion polymerisation
—comonomers/modelling – 1548
—inhibitors effects – 6442
—kinetics/autoacceleration – 5713
—presence inhibitors (oil-soluble) – 6441
—presence oxides, kinetics/encapsulation – 4906
—styrene &, kinetics/modelling – 4917
epidemiology – 4574
floors, advantages/UK market/causes – 5844
grafting, on nitrile rubber – 988
miniemulsions, transport between these/others – 4562
photopolymerisation
—benzothiazole (mercapto)/kinetics – 8762
—kinetics – 2999
—kinetics, to glassy state – 4641
—kinetics/lasers (pulsed) – 9842
—methylanthraquinones, solvents effects – 6213
—mixing effects – 2135
—pyrene/amines – 6211
—thioxanthones/benzil/amines – 3798
polymerisation
—around pigments/surfactants – 2329
—azo sulphonates – 9057
—gel effect, modelling/simulation – 1556

Methyl Methacrylate *(continued)*
—gel effect, reactors/modelling – 4055
—iniferters, thiurams – 8088
—peroxides, cinnamic acid comonomer effects – 9074
—presence maleic – 4038
—presence maleic anhydride/amines – 107
—reactors & on-line measurements/predictions – 839
—semi-batch processes, control – 80
—sodium bisulphite, metal salts effects – 836
—viscosity – 6859
polymerisation (anionic)
— 3189
—ammonium/silanes – 4036
polymerisation (group transfer)
— 4039
—initiators (various) – 4047
—kinetics etc – 4043
—reactivity ratios – 6434
—termination/mechanisms – 5695
polymers
—coatings for concrete – 2769
—dissolution rates, comonomers effects – 6978
—photocurables, acrylates & – 9880P
—plastisols, polyvinyl chloride & – 5074P
—thermal degradation, pyrolysis/thermo-oxidation – 8635
products, with mercaptans – 3982
reactivity ratios – 2404
synthesis
—plants (German), expansion plans – 3881
—polymerisation inhibition – 3983
—wastes treatment – 9931
toxicity, chromosome aberrations, lymphoma cells – 2098
vinylidene chloride copolymers, DSC/transitions – 1257
Methyl Oleate
metathesis, with olefins – 7994
Methyl Vinyl Ether
See vinyl methyl ether
Methyl Vinyl Ketone
See vinyl methyl ketone
Methylbutylene
copolymerisation, comonomers/hydrogenation – 3158P
Methylcellulose
SIMS – 6903
synthesis
— 4987P
—joint ventures dissolution – 7868
Methylene Chloride
acidity of systems, indicators – 4489
carcinogenicity, mice/rats/humans, reports – 5361
determination, in water – 2000
emissions
—determination, GC – 1924
—scrubbing – 4621
—treatment, bacteria beds – 2120
exposure
—adhesives (aerosol-type) use – 1271
—livers/enzymes – 2088
extraction by, in pollutants studies, stabilisers interferences – 2857
labelling, harmful/animal cancers, regulations (US) – 3085
paint strippers
— 9397P
—activators – 4295P
—replacement materials problems – 7023
phosphating/degreasing, combined – 5121
regulations (US)/statistics – 6326
reproductive systems, studies – 4601
toxicity, no-adverse effect levels – 4600
water in, determination – 2883
Methylene Dithiocyanate
wood preservatives, testing/concentration – 3527
Methylenebis(chloroaniline)
carcinogenicity, review – 9762
toxicity, DNA repair tests – 2099
Methylenebis(phenylene isocyanate)
See diphenylmethane diisocyanates
Methylenecyclobutanes
substituted, synthesis/polymerisation – 91
Methylenedioxanones
polymerisation (ring-opening) – 2318
Methylenedioxepenes
polymerisation (ring-opening), mechanisms – 4035
Methylenedioxolanes
copolymerisation, ketones groups (main-chain) from – 4049
vapour deposition – 2646P
Methylenedioxolanones
polymerisation (ring-opening) – 2318
Methylenemalonic Acid
esters, polymers, resists, electron beams/X-rays – 7826P
Methyloctanediols
acrylates, diluents (reactive) – 3143P
polyurethanes, hydrolysis resistance – 6512P
Methylpentanediols
polycarbonates, acrylates (polyfunctional) – 4937P
polyester acrylates – 2431P
Methylpentenes
polymers
—adhesives (hot-melt) modified by – 9270P
—grafting/halogenation, coatings etc – 1602P
Methylstyrene
alpha-
—butoxy groups, synthesis/polymers/deblocking – 5697
—copolymerisation, modelling – 830
—copolymers, end groups – 8058
—copolymers, silyl groups, photocurables – 3013P
—fluoroalkyl groups, polymers, comonomers/silyl groups – 1878P
—polymerisation (cationic), initiators – 9071
—polymers, adhesion promoters – 5813
—polymers, blends with acrylics – 8057P
—polymers, viscosity, K(theta) from below – 8592
—silyl groups, pentamethylsilyl, copolymers – 9173
blends, with acrylics – 8498P
copolymers
—composition, NMR (Fourier transform) – 3704
—DSC – 8062
—resists – 611P
—resists, isomers effects – 4633
graft copolymers, microgels (core/shell) – 6151
market (US)/styrene replacement – 7158
para-
—copolymerisation, cationic/free-radical simultaneous – 6436
—copolymers, printing inks – 1009P
—graft copolymers, surfactants (polymeric) – 3183
—market (US)/styrene replacement – 7158
products, with alkyds – 6454

Methyltetrahydrophthalic Anhydrides
asthma/rhinitis – 7033
hazards – 6170
health hazards/monitoring (biological) – 2108
Metrep
acquisition, by Brent Chemicals – 685
Meyer International
stores acquisition by Texas – 2206
Mica
adhesives (epoxy) – 5827P
adsorption on
—forces between surfaces – 4540
—polymers, torsion microbalances – 2934
aerosol paints – 6017P
anticorrosives
—epoxies/bitumens & – 2710P
—tapes (steel), edges – 1076P
coated
—iron oxide, from nitrates/alkaline/iron ions – 4838P
—metallic finishes, aluminium powders & – 2786P
—metals, metallic finishes – 9578P
—multicoloured coatings, transparent substrates – 6830P
—nacreous pigments – 1455
—nacreous pigments, blends of dichroic/white – 1879P
—oxides (mixed), gold colour – 7976P
—oxides then zirconium oxide – 28P
—oxides/zirconium oxide – 29P
—polymers (anionic)/metal cations/pigments layers – 1474P
—reflectance, calculation/observed – 8568
—tin oxides/titanium dioxide, low tin – 30P
—titanium dioxide, manufacture – 4844P
—titanium dioxide, rutile, weather resistance/lightfastness – 2275P
—titanium dioxide/aluminium oxide, optical properties – 3112
—titanium dioxide/iron oxide alternating – 2262, 2264
—titanium nitride – 2262
—titanium oxides – 2262
—titanium oxides, colorimetry – 2264
—treatment, free-flowing properties – 3121P
coatings
—buildings, acrylics/monomers etc & – 9488P
—phthalocyanine pigments (plate-like) etc & – 9490P
—silicones &, thermal shock resistance – 4978P
coatings containing, filtration – 8354
metallic finishes, aluminium flakes & – 4426P
modified, cations exchange, coloured products – 3976P
particle size distribution, curve fitting – 3740
surfaces
—adsorption/desorption/exchange – 748
—forces between, in melts – 1251
Micelles
acid/base equilibria – 6128
block copolymers
—acrylic/ammonium (pendent) – 8658
—core/shell, fluorescence studies – 1253
graft copolymers, siloxanes/acrylics – 8659
interfacial tension, relation between tension/micelle type – 7736
particle size distribution, determination – 5341
photosensitisers – 3796
polymerisation – 3168
surfactants (unsatd), polymerisation – 7288
thermodynamics, review – 7716
Micellisation
block copolymers, book chapters – 2009
emulsion polymerisation (emulsifier-free) – 5686
polymerisation (emulsifier-free) – 5669
Michael Adducts
acrylates/amines – 2138P
coatings, components forming, acrylics (branched) in – 4423P
cross-linking reactions, acetoacetates/unsatd – 2384
hydrolysis, catalysts – 7989
hydroxylated, from amines (hydroxylated)/unsatd – 3304P
mercaptans/bisacrylates – 1636
products, with epoxies, electrocoating (cathodic) – 6571P
Micro-organisms
anticorrosives &, metabolites role – 8456
aromatic compounds degradation – 3512
biodegradation, toluene/trichloroethylene – 8743
buildings
—biodegradation/corrosion – 7576
—health hazards/precautions – 5380
conservation materials &, polymers – 3521
contamination by, paints/sources/biocides – 7575
control, on paints, interior/exterior – 8455
corrosion &
— 7576, 9408
—& control – 9444
—case histories – 3482
—cathodic half reaction/stainless steel – 9416
—electrochemical measurements, cells – 4350P
—electrochemistry – 3483
—marine – 7934
—marine/green rust/sulphate-reducing – 5917
—mechanisms/control – 9438
—test cells/electrochemical measurements/communities studies – 9419
corrosion by
— 2719
—cooling systems, treatment – 2689
databases/information services/information networks – 5941
effluents treatment by – 3781
paint &, review – 3503
paint defects, species/mechanisms/control – 8459
pH/temp/formulations & – 3511
pollutants &, dehalogenation – 8740
preservatives/aromatic biodegradation – 3512
sensors using, review – 4519
solvents tolerance – 5182
testing, papers on – 1448
thickeners &, enzymes/viscosity loss/control – 2720
toluene tolerance – 5180, 5182
volatiles (org)/odours treatment – 586
wastes treatment, in situ – 9822
Microbiocides
See also antimicrobial entries, algicides, bactericides, biocides & fungicides
functional groups/mechanisms – 3518
Microcapsules
adhesives (water-bornes), reactives, crushing assembly – 8258
antifungal/anti-algal, cores/shells – 4369P
catalysts, siloxanes (unsatd)/siloxanes (Si-H) & – 923P
curing agents in – 7310

Microcapsules *(continued)*
isocyanates in, coatings (curable) – 456P
manufacture, from water etc/film former solutions – 8036P
transfer materials (thermal), perfumes – 9315P
Microelectronics
See electronic(s) entries
Microemulsions
formulation/stability/characterisation/properties control – 5338
monolayers studies/interfaces & – 2915
oil-in-water
—field flow fractionation enhancement by – 1914
—voltammetry – 7713
photochemistry, stilbene isomerisation/microemulsion transitions – 5323
photopolymerisation – 7078
polymerisation
— 3163, 3168
—acrylamide/salts effects – 1249
—porous materials from – 816
—siloxanes (cyclic) – 9176P
siloxanes
— 9176P
—by emulsion polymerisation – 8169P
styrene, polymerisation, comonomers stabilisers – 8048
theory, above percolation threshold – 7712
thermodynamics – 7716
vinyl acetate, phase diagrams/surfactants/co-surfactants – 6957
water-in-oil
—phase separation by electrical fields – 8703
—silica by silicates hydrolysis – 9757
Microencapsulation
See also encapsulation
by melamine resins, printing inks containing – 5064P
by polyureas, from diisocyanates/isocyanurates – 1516P
by urea resins – 8035P
corrosion inhibitors – 9423
developments, patents – 6410
liquid crystals, temp-indicating inks – 5405
particles, with particles, air flow processes – 3119P
phosphorus – 5188P
pigments, gelatin/formaldehyde – 4829P
Microgels
acrylics, polymerisation presence emulsifiers (reactive) – 938P
adsorption, on pigments – 817
anticorrosives (water-borne) – 5178P
cross-linked
—acrylics, electrocoating (cathodic) – 2557P
—acrylics, properties/decorative coatings etc – 3338
—matting agents – 968P
—matting agents, electrocoating – 967P
dispersants – 817
electrocoating, electrocoating over – 965P
electrocoating (cathodic), air-drying compsns – 8204
exclusion chromatography, viscometers (membrane) as – 1920
from cross-linkables/cationics – 243P
from cross-linkables/water-solubles – 242P
heat-curables – 938P
history – 8040
hydrophilicity, from cross-linkables/water-solubles – 69P
manufacture/dispersion presence – 817
matting agents – 69P
NADs – 3191
particles (core/shell)
—electrocoating – 966P
—graft copolymers – 6151
pigments/metals as cores, electrocoating – 969P
polyesters (unsatd), formation/size/structure – 1568
reactive
—chemistry/manufacture/properties/uses – 2336
—manufacture/characterisation/properties/uses/review – 8040
solutions (concentrated), rheology, experiments/models – 1896
theory – 4019
thick coatings, undercoats – 7621P
water-bornes
—basecoats, automobiles – 5785
—epoxies/carboxylated – 9225P
Microparticles
blends, stabilisation, groups/units – 6568P, 6569P
cross-linked
—dispersions (aq), polyester-urethanes – 5787P
—water-bornes – 5787P
encapsulation – 3173
NADs, polyurethanes – 3345P
oxides, dispersions (org) manufacture – 1478P
particles (core/shell), stabilisation – 6568P, 6569P
polyester-urethanes – 6415P
polymers, manufacture/dispersibility/colloids (protective) – 9059P
polymers (star), stabilisers (light) – 5000P
water-bornes, xanthan gum/binders & – 6559P
Micropores
coatings with
— 3575
—permeability/effectiveness – 6124
—problems – 6806
finishes with, for wood – 3576
hydrophobic layers, on paints, fouling control – 9523P
polyester-urethanes (unsatd), & cured – 3792
Microscopy
acoustical, scanning, surfaces/sub-surface – 1263
colorimetry, problems – 6030
combination
—with FTIR – 4524
—with FTIR, paints/thin sections – 6113
—with FTIR, pollutants particulates – 6928
—with infrared spectroscopy, uses – 6048, 9717
—with MS (laser microprobe), paint defects – 3649
—with Raman spectroscopy (Fourier transform) – 6047
—with Raman spectroscopy, uses/review – 8617
—with Raman, pigments – 9663
—with spectrometry, paints/thin sections – 6113
compensators, refractive index – 8666
film thickness – 8903, 8918
image storage techniques – 9701
nacreous pigments, identification – 2813
paint defects, photography &, techniques/case histories – 9748
techniques/polymers, book chapters – 1955
ultraviolet wavelengths, diffusion – 9732

Microspheres
coated
—hemispherically, by partially transmissive reflectors – 8533P
—retroreflection – 8533P
glass
—ablative coatings – 6848P
—coatings, metallic effect/wear resistance – 6840P
—restoration compsns – 5232P
hollow
—ablative coatings, epoxies/cork & – 1884P
—adhesives – 5823P
—ceramics, silver-coated/magnetic – 3570
—glass, ablative coatings – 9634P
—heat swelling, splashes etc removal – 2651P
—volatiles in, intumescent compsns – 1109P
layers, on cleaning baths surfaces – 5124P
polymers
—manufacture, polymerisation methods – 814
—tack, polymerisation for – 9256P
polystyrene, chloromethyl surface groups – 5733
properties – 7941
proprietary, types/properties/uses – 7941
silica, from silicates, size/pores – 1458
Microvoids
opacity by, lower PVC – 6858
pigments – 6858
Microwaves
curing by, epoxies – 5450
spectrometry, latices coalescence – 3717
Midwest Coatings
acquisition, by Sericol – 5569
Migration
See also diffusion
adhesives (hot-melt) – 6164
copper, into adhesives, prevention – 269P
curing agents, from substrates – 448P
plasticisers, resistance, polyesters (reactive) – 4249P
silicones, to surfaces, on films orientation – 9610P
water, pipeline coatings, electrochemical measurements – 2669
Mildewcides
See fungicides & biocides
Milesi Group
plants (Spain)/subsidiary companies – 4717
Military Equipment
fire-resistant coatings, review – 1831
Milk
tanks (storage), water-bornes – 6545
Milling
See also comminution & grinding
magnetic coatings – 5452
pigment compsns manufacture – 1485P
presence acrylics (carboxylated) – 1575P
presence bicarbonates, ball then roll – 1483P
titanium dioxide, opacity & – 6034
Mills
automation – 5835
ball
—charge movement/forces/power, mathematics – 3423
—energy efficiency/breaking events, optimisation – 294
—feed rate/fineness/grinding media wear – 292
—grinding of blends – 2616
—magnetic coatings manufacture, balls materials – 2624P
—materials transport, rheology/treatment as fluidised – 8327
—rotor/stator type, proprietary – 5075
—unsteady-state, modelling/algorithms – 1024
equipment, selection/monitoring/types – 7464
equipment (proprietary) – 1724
evaluation – 5076
for paper/pulp, coatings – 7533
for pulp
—concrete degradation – 2679
—contaminants on substrates – 2639
—painting, problems/systems/maintenance – 7482
grinding capacity, prediction – 8329
jet, jet arrangements/separation chambers – 8332P
pearl, blockages/causes/clearing/avoidance – 1025
proprietary – 4252, 8319
sand
—grinding media behaviour, cameras (video) – 7718
—horizontal, energy consumption/discharging – 3417
—pressurised – 5076
tumbling
—classification (internal), axial velocities/selective retention – 2622
—modelling – 2622
turbine, proprietary – 9347
two roll, particles concentration/bank flows – 5077
types – 2617
types/manufacturers etc – 6628
Mindon Engineering
products/services – 7900
Mineral Fibres
synthetic
—carcinogenicity/deoxyribonucleic acid hydroxylation – 9781
—health & safety aspects – 7962
Mineral Sands
rare earths – 2260
Sierra Leone, agreements Australian companies – 7225
South Africa – 7952
Mineral Spirits
See also white spirit
aromatics in, GC – 8911
Minerals
See also industrial minerals
Mines
coatings, for walls reinforcement – 9603P
Miniemulsions
copolymerisation, co-surfactants role – 3228
monomers transport (interparticle) – 4562
polymerisation
— 3185
—contrast with emulsion – 5666
Mining
coal, anticorrosives – 1774
Minproc Holdings
joint ventures, Kerr-McGee Chemical &, titanium dioxide – 1374
titaniferous ores, Kerr-McGee & – 2195
Mirrors
copper reflective layers, protective coatings – 6819P
decorative, silver layers randomly modified – 6820P
reflective coatings, protection, radiation-curables – 632P
transparent coatings/silver, ultraviolet absorbers – 3995

Miscibility
acrylics, behaviour/interconnected two-phase/parameters – 8676
acrylics/polyvinyl chloride, factors/ester groups – 6152
acrylics/styrene polymers – 4483
epoxies (linear) – 9741
polyamides/polyethers, predictions etc – 6125
polyesters (aromatic) – 4924P
polyethylene (chlorinated), with various – 8675
polymers
— 5325
—blends – 1538
polyvinyl methyl ether/styrene copolymers – 540
solvents, for lacquers, with heptane – 8893
Misting
See also ink fly
water-bornes – 6881
Mitr Phol Sugar
joint ventures, silica, PPG &, plants & – 3900
Mitsui Petrochemical Industries
joint ventures
—epoxies (liquid), plants – 1370
—epoxies plants – 676
Mitsui Toatsu Chemicals
acquisitions by, of Anderson Development – 3071
emulsions manufacture, plants – 3879
joint ventures, with BP Chemicals America – 2198
Mixing
adhesives etc, viscoelasticity testing – 1189
circulation times, determination/data analysis/modelling – 8328
dusts control – 7803
elastomers, curing &, properties – 1530
equipment
—continuous/multi-chamber – 8330
—directories (UK) – 289
—dispensers with – 7375P
—motionless, proprietary – 3414
equipment (proprietary) – 3413, 5078, 7444, 8319
liquids, impellers speeds/surfactants – 4256
liquids sheets impingement – 8323, 8324
paints
—advice to painters – 3448
—spraying &, regulations (Norwegian) – 4738
particles (large)/particles (fine), fine on large – 1721
pigments/resins, powder coatings manufacture – 1030P
polymers
—book chapters – 5598
—equipment/theories/phase morphology – 5081
powder coatings, silica/clear blending pigmented – 1685P
printing inks manufacture – 3401P
reactors – 7455
stirrers (magnetic), developments/proprietary – 291
surface tension presence, determination – 8680
Mobay Corp
Isocyanates, plants (US) – 7892
pigments (org), plants (planned) – 4719
Moisture
absorption
—low, adhesives, thiourethanes – 8280P
—low, polyether-amines – 5740
—rate etc/conductivity/corrosion – 9431
adhesives (epoxy), before curing – 4542
adhesives (epoxy)/aluminium &, uncured & – 3623
barrier coatings, styrene/butadiene copolymers – 5012
buildings, problems/repellents – 5902
curing by
—after ultraviolet, acrylic/urethanes – 3827P, 3828P
—combination with ultraviolet – 9890P
—ultraviolet & – 9854P
—ultraviolet &, separate – 5440
detection, in lacquers solvents – 8893
determination
—absolute not RH importance – 6994
—hygrometers – 6154
—in polymers, infrared (near) – 1987
—sampling/expert systems – 1194
electronic equipment, enclosures/sealants – 8394
flow, in coatings, calculations – 1237
fungi &, requirements – 6759
impact resistance – 1902
indication of, adhesives colour change – 6588P
levels, in coatings, time/depth dependence – 1237
permeability
—coatings/joints – 9400
—high, emulsion polymerisation for – 8445P
pipeline coatings &, soils/corrosion & – 5151
scavengers, electrical insulation – 6772P
uptake, joints, treatment effects/factors – 9400
walls, damage/mechanisms/coatings – 358
Moisture Resistance
acrylics (fluorinated), silyl groups – 9589P
acrylics/hydraulic substances – 9584P
additives, organo-silicon compounds, urea groups – 1520P
adhesives (structural), screening – 7699
coatings, electronic components – 4431P
epoxies
— 4940P
—for semiconductors – 2612P
—phenolics (silicone-modified) – 1593P
formaldehyde resins, phenol/urea/melamine – 1624P
heat-curables, cyanates/maleimides groups – 4964P
phosphazenes (unsatd) – 4432P
polyurethane coatings, printed circuit boards – 4370P
powder coatings, epoxies – 8242P
recording materials (magnetic) – 8306P
siloxanes/functional silanes – 396P
ultraviolet-curables, optical fibres – 3026P
Moisture-curable Coatings
See also high-solids coatings, polyurethane coatings (moisture-curable) & primers (moisture-curable)
acrylics
—acetoacetates groups/ketimines – 2525
—siloxanes groups – 4168P
adhesion, silyl groups/diesters – 213P
aminosilanes/carbonyl products, isocyanates & – 2803P
cellulose (modified), silyl groups – 2708P
cellulose derivatives (modified) – 4144P
curing, film stability during – 214P
epoxies
—ketimines (modified) – 7318
—ketimines/pigments (flake) & – 1786P
epoxies/polyfunctional acrylates/organo-silicons – 947P
fluoropolymers (reactive)/organo-silicon isocyanates – 210P

Moisture-curable Coatings *(continued)*
for galvanised steel, polymers/epoxy silanes etc – 5230P
for plastics
—polymers/silyl groups – 9550P
—silyl groups/isocyanurate groups – 9549P
isocyanates (blocked)/polymers – 8551P
maleic anhydride copolymers/heterocyclics – 6539P
manufacture, water removal – 7378
moisture requirements, absolute not RH – 6994
NADs, dispersants (polymeric)/silyl groups – 9209P
polyisocyanates (fluorinated) – 5757P
polymers/isocyanate groups (pendent), & urethanes – 8548P
polymers/silyl groups
—ketals & – 1654P
—silanes/aminosilanes & – 9204P
silicones (fluorinated), hydrolysable groups – 9581P
silicones/silyl groups/waxes – 214P
siloxanes (unsatd) copolymers – 945P, 1101P
silyl groups/silanes, adhesion to alkyds etc – 8528P
urethane prepolymers, acid chlorides as stabilisers – 1621P
urethane prepolymers/silyl groups/isocyanate groups – 9214P
weather resistance, polymers/alkoxide etc products – 2704P
zinc dust paints, bridges (steel) – 1763
Moisture-curable Compositions
See also adhesives, epoxy adhesives, filling compositions, pressure-sensitive adhesives, sealants & sealers
acrylics/polyethers, both organo-silicons, third components – 6540P
acrylics/silanes products – 6528P
anhydrides (polyfunctional)/amines (blocked) – 9203P
epoxies, polyimines/amine thiocyanates – 1574P
ethylene copolymers, silyl groups – 5963P
fluoropolymers/silyl groups – 4151P
foaming, in curing, avoidance – 5852P
graft copolymers, silicones/acrylic monomers – 1639P
hardness, silanes products/epoxy groups/curing agents – 4999P
maleic copolymers/blocked polyamines – 3343P
olefin polymers/silyl groups, siloxanes/polyethers (pendent) & – 6531P
polyesters/silyl groups – 2501P
polyisobutene/silyl groups – 4163P
polymers/silyl groups/condensed silanes – 9206P
silicones – 3311
siloxanes
—chemistry – 3313
—organo-silicons/treated fillers & – 8196P
siloxanes (hydroxylic), silanes/accelerators & – 197P
silyl groups (Si-S)/isocyanates – 217P
silylthio groups/isocyanate groups – 5852P
stability (storage), siloxanes/catalysts etc – 5004P
urethane prepolymers, blistering avoidance/adhesion – 461P
Moisture-curable Polyurethanes
See polyester-urethanes & polyurethanes
Molecular Weight
averages/distributions, book chapters – 1916
chromatography (supercritical fluid) – 7662
condensation polymerisation, copolymerisation – 3199
copolymers
—conversion & – 5285
—viscosity (intrinsic) &, equations – 1901
determination
—diffusion – 1923
—flow-through devices – 3670
—polyelectrolytes – 1922
—polymers (water-soluble) – 514
—sedimentation – 1923
—ultrasonics, relaxation amplitude – 8667
fluoropolymers
—reduction via heating with gases/precipitation – 4158P
—rheology & – 3620
fractionation, columns, solvents/temp variation – 820
GPC/light scattering (small-angle) – 5287
HPLC (gradient), separation by – 9679
photon correlation spectroscopy, scaling – 9754
polystyrene, standard samples/GPC/viscosity – 1952
prediction
—initiators (polyfunctional) & – 9058
—polymerisation (continuous) – 1555
—styrene/methylstyrene – 830
—to high conversion, styrene & – 92
Tg &
— 2939
—equations/parameters – 9734
Molecular Weight Distribution
adsorption & – 6143
book chapters – 2356
determination
—copolymers, composition distribution & – 7298
—epoxy oligomers, TLC – 7740
—fluorescence in solution, fluctuations – 9707
—GPC/HPLC – 9713
—polyethylene (branched) – 5295
distributions/reaction mechanisms/empirical/equations – 2326
emulsion polymerisation
— 3181
—theory – 79
—vinyl acetate/MWD models/GPC – 9079
epoxies
—gelation/GPC/scaling & – 6114
—GPC/vapour pressure osmometry – 1231
field flow fractionation (thermal) – 6097
formaldehyde oligomers, equilibrium constants – 1229
gelation – 4566
GPC – 1932
mathematical, rheology as function of parameters – 1893
narrow, polyesters, synthesis/high-solids coatings – 9116P
polyesters, coatings, effects on properties – 7309
polymerisation (anionic) – 2346
polymerisation (group transfer), acrylates – 4043
polymerisation (step), theory – 3180
polymerisation (step-growth), theory – 9051
viscosity (intrinsic), effect on Huggins coefficient – 9641
Molluscs
biocides (chemically-bound) – 9508

Molluscs *(continued)*
control, ionene polymers – 4365P
mother-of-pearl, coatings, copper carbonate/cement – 2742P
Molybdates
conversion coatings
—for steel (zinc-coated) – 5925
—for zinc – 1042
zinc dust paints – 5167P
Molybdenum
corrosion inhibitors – 5141
Molybdenum Compounds
additives, pot-life extension – 6538P
Monitoring
air pollutants
— 7660
—FTIR – 6934
bacteria, oil field systems – 1099
corrosion
—microsensors – 9413
—monitors (continuous) – 374
—presence cathodic protection – 1068
—rebars – 7527, 7528
—rebars, on-site/laboratory – 7516
curing
— 5328
—adhesives, ultrasonics – 4533
—epoxies, Tg – 7007
—FTIR (photoacoustic) – 4520
—methods – 2517
—of epoxies, methods comparison – 5311
—of epoxies, ultrasonics – 6118
—polyamic acids, fluorescence/spectroscopy – 1199
—polyesters (unsatd) – 1568
—polyesters (unsatd), pressure/temp – 7320
—ultrasonics delay lines – 5270
—zinc/ethyl silicate paints, monitoring – 6735
data loggers (proprietary) – 9329
dielectric properties, microsensors, curing/diffusion etc studies – 2014
diisocyanates/butanol reaction – 1235
dispersion, magnetic pigments – 4462
drying, adhesives, ultrasonics – 4533
effluents, carbon (org, total) – 8647
emissions
—review – 7673
—semiconductors manufacture, FTIR – 5301, 5302
—wood/furniture finishing – 6099
ethylene glycol monobutyl ether – 5365
exposure, skin/volatiles – 6901
film thickness, coil coatings application – 9729
flow (pneumatic), powders, on-line – 3637
formaldehyde – 3655
gases/vapours, methods, direct/laboratory – 1224
hazardous materials
—strategies, guidance notes – 4762
—workplace, organisations (approved, French) – 715
humidity – 6970
lead, regulations (French) – 718
olefins, acoustic waves/coated detectors – 1236
organo-tins, oysters/mussels in – 3787
personal
—aromatic compounds (polycyclic) – 3772
—diffusive samplers, carbon (activated) – 1431
—diffusive samplers, length-of-stain – 1433
—diffusive samplers, sorbents (liquid) – 1432
—formaldehyde, sodium bisulphite/silica gel tubes – 1205
—vinyl chloride, carbon (activated) – 1435
phosphating, baths etc analysis, automation – 9340
photo-crosslinking, infrared spectroscopy – 5282
photocuring, DSC – 2992
photopolymerisation – 1287
photopolymerisation (fast), infrared spectroscopy – 2126
pipeline coatings
— 6712, 8391
—cathodic protection/defects – 2659
pipeline coatings (underground) – 4321
pollutants, problems/recommendations – 9669
pollution, plants (chemical), control centres – 9820
polyesters (unsatd) synthesis – 2407
radiation curing
—labels/colour changes – 5446
—techniques/comparison – 5305
reactors, alkyds synthesis, control & – 9336P
rinsing, tanks monitoring/control – 3430
scrubbers, linings – 7549
sensors, micro-organisms use for – 4519
sulphur dioxide
— 4508
—lead dioxide plates – 1417
suspension polymerisation, traces/GC – 1599
temperature, in-process, tracker systems – 6960
toluene diisocyanate, samplers (diffusive) – 4622, 4623
toxic gases etc, GC/infrared methods – 7679
ultraviolet curing
—FTIR – 2127
—real time, infrared spectroscopy – 1288
water pollution, test organisms use/complex mixtures – 9814
weathering, chemical changes – 9427
Monitoring, Biological
See also biological exposure indices, biological exposure limits & Biologische Arbeitsstoff-Toleranz-Werte
aromatic compounds (polycyclic) – 3772
benzene
—benzene effects & – 2115
—muconic acid/urine – 4500
—phenol in urine – 2865
—urine/trihydroxybenzene – 9690
benzene/toluene, interactions – 2954
cadmium – 4503
chrome pigments manufacture – 8733
chromium, welding, high chrome rods use – 4596
cobalt blue – 3777
cyclohexanedicarboxylic anhydride (substituted) – 2108
dimethylacetamide – 4504
expired air, sampling (integration) – 5284
isopropanol – 5283
lead
— 3765, 9691
—regulations (French) – 718
lead compounds, stabilisers manufacture – 5390
metals
—AAS (graphite furnace) – 1230
—conference proceedings – 5599
metals (heavy)
—quality control samples – 7677, 7695
—water loading & – 7752
review – 7673

Monitoring, Biological *(continued)*
solvents
— 3663
—exposure estimation (retrospective) – 6936
—work load effects – 2961
styrene
— 2977
—ethanol interferences – 4570
—review – 1944
styrene/toluene – 553
toluene
— 566, 7684, 7761, 7769
—blood/alveolar air/air – 4573
toluene metabolites – 7669
trichloroethane – 2081
trichloroethylene, effects of other chemicals on levels – 2086
variability, physiological modelling – 9768, 9769
xylene – 7761
xylene/methyl ethyl ketone, interactions – 2090
Mono(ethylhexyl) Phthalate
toxicity, testes – 573
Monolayers
acrylics, orientation/side groups – 2909
coatings, by transfer/polymerisation, laminate structures by – 3451P
fatty acid esters, oxidation, temp &, bulk – 38
fatty compounds (unsatd), multilayers polymerisation – 598
FTIR (reflectance, total, attenuated) – 2894
fumarates copolymers, multilayers & – 2026
infrared spectroscopy/microscopy – 6048
microemulsions &, studies for/interfaces – 2915
photocurables – 4636
polyvinyl acetal, multilayers & – 2044
siloxanes, on water – 7720
vinyl alcohol copolymers, azobenzene (hexyl) side chains – 7000
Monomers
See also macromers & macromonomers
analysis – 9713
free
—determination – 8957
—removal, latices treatment ion exchange – 5015P
health & safety data sheets – 4800
miniemulsions, monomers transport (interparticle) – 4562
residual
— 7688
—corrosion & – 2672
—determination in adhesives (electron beam-curable) – 1222
—determination, chromatography (precipitation) – 2003
—determination, GC – 1216
—low, carboxylic acids/anhydrides polymerisation – 1580P
—reduction, polymerisation finishing steps, simulation – 1537
—removal, supercritical fluids – 2481P
—scavenging with monomers – 270P
synthesis, manufacturers acquisition – 3888
Monsanto Co
maleic anhydride
—joint ventures/plants – 7893
—plants (planned) – 3905
Montedipe
acetophenone, plants expansion – 7875
Montmorillonite
acid-activated, producers/statistics/uses etc – 7945
coatings, against odours – 8546P
flow control agents – 3149P
ion-exchanged, chemistry (org) using – 48
modified
—by inorganics/surfactants, adsorbents – 8738
—complexes (org) – 1008P
Monuments
historic, conservation, micro-organisms & – 3521
Morpholine
derivatives
—catalysts, moisture-curables – 2611P
—lubricating coatings – 8539P
—ultraviolet-curables – 1320P
—unsaturated, ultraviolet-curables – 643P, 3026P
groups, acetophenone, photoinitiators – 1304P
products, with acrylics (modified) – 7285P
toxicity – 7753
Mortars
linings, sealers against alkali loss – 6620P
sealers, silicones/coupling agents – 6621P
Morton Thiokol Inc
activities/acquisitions/plans/financial performance – 3070
Mossbauer Spectroscopy
cobalt, interfaces with coatings – 505
iron(III), in coatings – 8646
noisy spectra/autoconvolution/standard spectra – 6919
tin-119, antifoulings – 2714
Motorcycles
aerosol paints, gloss/mica – 6017P
helmets, painting – 6653
metallic finishes, application (wet-on-wet) – 4435P
Motors
electric
—electrical insulation, powder coatings – 1826P
—powder coatings, epoxies – 1687P
—wire coatings – 1103P
powder coatings, epoxy/phenolics – 7587P
rotors, slots, powder coatings, epoxies/rubber – 3363P
Mottling
water-bornes, spraying/avoidance – 957P
Mouldings
foams, water-bornes for – 1847P
of plastics
—abrasion-resistant coatings – 1845P
—acrylates/stabilisers etc – 1121P
—adhesion promoters, aziridines – 9040P
—coatings (in-mould) – 5201P
—coatings (in-mould), curing before injection – 5205P
—coatings (in-mould), powder coatings – 9366
—coatings (in-mould), silanes (hydrolysed)/acrylics – 8496P
—coatings (in-mould), spiro glycol acrylates – 5977P
—coatings (in-mould), ultraviolet-curables – 3563P
—coatings (in-mould)/release – 8488
—coatings, acrylates/siloxanes (unsatd) – 9559P
—coatings, acrylics (hydroxylated)/isocyanates compounds – 9568P
—coatings, curing agents from plastics – 448P
—coatings, ethylene copolymers – 9554P
—coatings, fluoropolymers – 1840P
—coatings, substrates mechanical properties changes – 5976
—coatings, wear resistance – 1846P
—coatings/adhesion – 8489P

Mouldings *(continued)*
—conductive coatings – 9564P
—release agents removal – 5895P
—RIM, coatings/vapour curing – 9567P
—RIM, paintability – 1117P
—RIM, polyurethane coatings – 9544
—RIM, polyurethane coatings/vapour curing – 9392P
—RRIM, coating (in-mould) – 5199
—SMC, flame treatment/adhesives/failure locus – 2628
—SMC, powder coatings – 9249P
—surfaces colouring by diffusion – 1837
—ultraviolet-curables – 6227P
—undercoats, phosphites/phosphates etc – 5209P
release coatings – 9551P
Moulds
casting, coatings, acrylics – 5993P
metal powders linings, coated substrates interactions – 445P
release coatings, siloxanes, hydroxylic/Si-H – 459P
Moulds (Mildew)
See fungi
MRF Ltd
speciality coatings, plants (planned) – 4725
Mt Clemens Coatings Inc
coatings, for vehicles (motor) – 5563
Multicoloured Coatings
for transparent, interference/absorption pigments, three colours – 6830P
plastics granules (emulsion-coated) blends – 455P
proprietary – 5211
Multilayered Coatings
acrylics/siloxanes/isocyanates – 8155
dipping in oil/aq layers – 1756P
electrocoating, polymers/waxes – 959P
epoxies/polyamides/ceramics, ceramics surfaces – 5801P
epoxies/siloxanes, phase separation structure – 9693
fluoropolymers – 8580
heat-curables, silicones (bound) at surfaces – 1175P
powder coatings
— 7411
—epoxies/acrylics – 8235
Musical Instruments
old, ground layers analysis – 9658
pianos, wires, corrosion inhibitors – 1797P
Mussels
adhesives (natural), synthetic analogues – 5804
fouling, environmental conditions/substrates – 414
organo-tins, levels, USA – 3787
organo-tins in, USA, levels – 8737
Mutagenicity
aniline, studies – 4588
azo dyes/intermediates, systems without – 757
butadiene – 2950
chromium (hexavalent) – 4598
di(ethylhexyl) phthalate – 2075
formaldehyde
— 2953, 6183
—review – 4582
isophorone, studies – 9787
methyl ethyl ketone, studies – 9787
methyl isobutyl ketone, studies – 9787
nickel, review, toxicology & – 4578
photo-oxidation products, toluene/nitrogen oxides – 3783
trichloroethylene, stabilised/non-stabilised – 9784
vinyl chloride, studies – 558

N

Nacreous Effects
coatings, pearls (imitation), analysis – 9692
pigments (flake)/powders, not mica – 8537P
Nacreous Pigments
colorimetry
— 2813
—new pigments/combination – 2264
coloured, polymers (anionic)/metal cations/pigments layers – 1474P
identification, microscopy – 2813
India, types/manufacturers – 8964
iron oxide (coated)
—coatings – 8188P
—weather resistance – 3130P
mica (coated)
—blends of dichroic/white – 1879P
—manufacture – 4844P
—oxides/optical properties – 3112
—tin oxides/titanium dioxide, low tin – 30P
—weather resistance/lightfastness – 2275P
multicoloured coatings, three colours, colourants & – 6830P
optical properties
—& mixing with adsorption pigments – 1455
—theory/calculated spectra – 8568
treated, free-flowing properties – 3121P
types/developments/manufacture/properties etc – 2262
water resistance, mica (coated) – 28P, 29P
NAD
See non-aqueous dispersions
Nail Varnishes
acrylics (hydroxylated) – 6005P
chitosan derivatives – 6849P
fungicides – 6764P
removal, solvents/gellants/amines etc – 5897P
Naphtha
solvent, paint strippers, problems – 7023
urticaria (contact) – 2074
Naphthalene
derivatives, resists – 3017P
diffusion, in supercritical fluids – 4545
halogenated, products fluorinated org acid salts – 8009P
unsaturated, amino groups – 4953
Naphthalene Diisocyanates
reaction, with butanol – 1235
Naphthalenedicarboxylic Acids
hydrogenated, adducts with maleic – 4970P
imides, synthesis – 4859P
polybenzodioxazoles with main chain units of – 181P
Naphthalenediols
products, with triazines (chlorinated) – 4957
Naphthols
groups, benzimidazoles, & pigments – 7238
products, with formaldehyde, epoxies from – 860P
Naphthoquinone
derivatives
—azides, sulphonates, benzophenones groups – 8809P
—benzophenones groups – 7818P, 7825P
—bound, photoresists – 3834P, 3835P

Naphthoquinone *(continued)*
—chemically-bound, photoresists – 7117P
—groups (pendent), photoresists – 7111P
—groups on phenolics, photoresists – 9857P
—groups on vinylphenols polymers, resists – 9868P
—groups, siloxanes, radiation & – 1285
—phloroglucinol diazonaphthoquinonesulphonates – 5475P
—photoresists – 2147P, 2171P, 2172P, 7099P, 8799P, 9858P
—photoresists, precipitation avoidance – 9878P
—photoresists, silanes (polymeric) & – 2164P
—photoresists, siloxanes & – 2165P, 4651P
—polymers, photoresists – 8790P, 8791P
—radiation-curables, novolacs/stabilisers & – 3832P
—resists – 3015P, 3825P, 3845P, 7825P
—resists, diazo diketones & – 4656P
—sulphonyl halides, photosensitives – 8774P
substituted, antifoulings – 2740P
Naphthoquinone Dyes
cyano groups, infrared absorption – 3128P
Naphthoxazines
spiro compounds, photochromicity – 4880P
Naphthylsuccinic Acids
carboxylated, heat-transfer materials – 9323P
National Paint & Coatings Association
activities – 3072
community service, painting – 2211
National Starch & Chemical Corp
acquisitions by
—adhesives manufacturers (Italian) – 3064
—of Thiem Corp – 3909
businesses exchange, with Borden – 7161
Natural Resin Acids
See resin acids
Natural Resins
See 'resins, natural'
Neochem Polymeres
joint ventures, with Du Pont – 4728
Neopentyl Glycol
brominated, urethane prepolymers from – 1111P
Neoprene
See polychloroprene
Nepheline
mastics – 9328P
Nepheline Syenite
markets/producers/deposits/outputs etc – 7940
plastisols – 4816
powders, matt coatings – 1077P
Nephelometry
See also turbidimetry
photopolymerisation monitoring – 1287
Neste
joint ventures, polyesters (unsatd), Saudi Arabia – 3887
privatisation/splitting – 9950
Neste Oy
adhesives, formaldehyde, plants (planned) – 7894
Nets
See also fishing nets
Networks
See also interpenetrating networks
formation
— 87
—gelation, defects/intramolecular reactions – 7292
—photo-crosslinking – 3806
—theories – 2333
polymers, swelling by water & heptane – 837
polyurethanes
—defects levels – 7342
—functional groups ratio/diluents effects – 6870
styrene/divinylbenzene copolymers – 831
theory – 4019
Neuropathy
See also brains, central nervous system & neurotoxicity
acrylamide, neurological/electroneuromyographic assessment – 7024
dementia (presenile), solvents/metals – 8711
hydrocarbons exposure, welding etc – 4585
lead, testing, methods – 4571
painters – 4584
peripheral, paints, testing – 7010
printing – 7039
solvents
—early diagnosis, visual disorders – 6192
—labelling/EEC – 4741
—paints/re-examination – 560
—wastes containing, exposure – 4592
toluene – 2089
Neurotoxicity
See also brains, central nervous system & neuropathy
acetone, with/without methyl ethyl – 4576
dithiocarbamates – 5383
lead, dementia, studies – 3779
metals fumes – 8711
methyl ethyl ketone, with/without acetone – 4576
solvents
—artists (graphic) – 2967
—dementia, studies – 3779
—encephalopathy/blood flow levels – 7021
—epilepsy & – 2091
—foetuses exposure/children from – 6180
—modelling, synaptosome membranes enzymes – 5367
—painters – 2111
—symptoms/Dutch painters etc – 9796
styrene
—exposure (long-term)/astroglial reactions – 7774
—neuritis (retrobulbar) – 2100
tetrachloroethylene – 8711
toluene – 2102, 7040, 9770
trichloroethane, brains/cGMP levels – 2103
Neutron Scattering
polyesters, blends transesterification, equations – 6122
polymers
—book chapters – 1989
—compatibility studies – 2875
small-angle
—colloids – 6150
—latices (core/shell), polystyrene – 2381
—latices, polystyrene (deuterated) – 6935
—particle size distribution – 5341
—particles, theory etc – 6983
—polymers, multi-component systems – 6103
—polymers, multiphase systems/homopolymers, review – 9712
—theory – 9712
theory/equipment/selected results – 1984
Neville-Synthese Organics
joint ventures, buy-out by Rhone-Poulenc – 7889
Newsprint
colour, printing inks (ultraviolet-curable) – 2134

Newsprint *(continued)*
inks
—canola oil – 3396
—developments affecting – 7431
—developments/critical parameters – 5059
—non-petroleum – 7430
—oils (proprietary) testing – 5834
—rub resistance – 1706P, 5059
—soyabean oil – 3135
inks (water-borne)
—oleophilics/hydrophilics/sulphonates – 1703P
—transmission measurements/model systems – 2589
printing (flexographic), problems/avoidance etc – 7438
Nickel
coatings, on fibres, antistatic coatings – 7597P
complexes
—colourants – 3103
—temperature-indicating paints – 3580P
conductive coatings – 5198
conductive pigments
—electromagnetic shielding – 7953
—types – 3960
corrosion, rates, USA, California, low – 1057
electrodeposition, pyrrolidones electropolymerisation simultaneous – 8225P
powders
—anticorrosives, zinc powders & – 8435P, 8436P
—weldable coatings, resins/metal powders & – 5934P
sealants (conductive) – 9324
silver-coated, conductive pigments – 7953
toxicology, review – 4578
Nickel Compounds
phosphating, zinc phosphate & – 4284P
stabilisers, for polyesters – 4945P
Niobium
epoxy compsns – 8315P
Niobium Compounds
epoxy compsns – 8315P
polymeric, ethoxyniobium dioxide – 3817
Nippon Chemical Industry Co
barium compounds, plants (planned) – 7879
Nippon Paint Co
financial performance/activities – 7177
Nippon Polyurethane Industries
diphenylmethane diisocyanates plants – 5551
Nippon Steel & Chemical Co
joint ventures, phenols/bisphenol A plants – 9963
Nissho Iwai
titaniferous ores, New Zealand/processing – 7936
titanium dioxide, ores/titanium slag, New Zealand – 9935
Nitrile Rubber
adhesives, phenolics & – 2585P
adhesives (cyanoacrylate) modified by – 2837
amino groups, epoxies modified by – 125P
amino-terminated
—adhesives (epoxy) – 5048
—adhesives (epoxy), acrylates & – 5825P
blends
—adhesives from resins & – 3381P
—with styrene/butadiene, hydrogen bonds – 7640
carboxylated
—blends with maleimides, water diffusion/uptake – 1264
—epoxies (toughened) – 844
—interfacial tension, epoxies & – 8699
—products with diamines, epoxies toughening – 9255
coatings, thermosetting resins & – 1075P
epoxy/acrylates & – 5425
grafting, with acrylics, & adhesives – 988
rheology, & additives/solids content – 6868
Nitrites
cementitious compsns, corrosion resistance – 1805P
Nitrobenzyl Groups
nitrobenzyl sulphonate groups, photoresists – 4667P
Nitrocellulose
abrasion-resistant coatings, zirconium oxide & – 1014P
coatings
—emissions, monitoring etc – 6099
—for plastics – 5204P
—for wood, tropical conditions – 2652
conservation, factors – 9187
derivatives, unsatd, radiation-curables, abrasion resistance – 7811P
lacquers, application, emissions control – 8375P
modified, lacquers/flammability – 5192P
nitrogen content, determination – 8931
NMR (carbon-13), substitution distribution – 8642
paper coatings – 9558P
particle size – 5310
pigment compsns, nitration degree, dispersion – 1471P
recording materials (magnetic), urethanes chain extension – 8300P
solutions
—diluents/active solvents ratio – 8896
—water/alcohols removal – 934P
synthesis, plants closure, Australia – 7870
tackifiers, acrylics & – 3388P
varnishes, plasticisers/wastes & – 3582P
water-bornes, for foils (metal) – 7396P
Nitrogen
determination, coatings, combustion/chemiluminescence – 8625
liquid
—paint stripping, application equipment – 4293
—paint stripping, jigs – 5130
total, in resins/plastics, determination – 8886
Nitrogen Dioxide
air pollution, colourants fading – 7241
emissions, atmospheric levels limits – 4758
sampling, samplers (passive) – 4516
Nitrogen Oxides
emissions, control – 4794
photo-oxidation presence, toluene – 3783
Nitromors Ltd
joint ventures
—paint strippers/wood preservatives etc – 3899
—Thai Toa Paints & Chemicals & – 3899
Nitrophenols
inhibitors, quinone &, for polyesters (unsatd) – 8089
wood preservatives, EEC directives (proposed) – 8850
Nitropropanediols
brominated, biocides, water-bornes – 3510
Nitroso Compounds
hydroxylamines
—derivatives, stabilisers, adhesives (radiation-curable) – 5469P

Nitroso Compounds *(continued)*
—solventless coatings – 8238P
Nobel Industries
activities/acquisitions/financial performance – 9951
financial performance – 2197
Noise
See also hearing
determination, organisations (approved) – 7921
Nomenclature
polymers
— 1529
—structure-based, suggestions – 8053
trade items, EEC – 1385, 3078
Non-aqueous Dispersions
See also organosols & plastisols
acrylics
—dispersants (reactive), melamine resins – 4998
—properties/decorative coatings etc – 3338
adhesion, comonomers, acrylates/pendent carboxyl – 216P
alkyds, liquid crystals groups – 8190
coatings, for wood – 8192
condensation polymerisation, methods etc – 3192
ethylene copolymers (carboxylated), from aq compsns – 9302P
fluoropolymers, below two micrometres – 4158P
high-solids coatings
—catalysts in particles – 9212P
—soluble/insoluble particles, solvent blends – 5002P
manufacture, acrylics, & uses – 215P
microparticles, polyurethanes – 3345P
particles (gelled/non-gelled) blends/solvent blends – 5778P
polymerisation for
—acrylates, presence copolymers – 3341P
—acrylates, presence fluoropolymers – 1868P
—acrylics, presence fluoropolymers – 1867P
—initiators/surfactants removal etc – 9210P
—macromonomers etc – 8065P
—monomers/reactive resins – 5773P, 5774P
—presence dispersants (polymeric) – 9208P
—presence dispersants (polymeric)/silyl groups – 9209P
—presence dispersants (polymeric, reactive) – 6541P
—presence epoxies/stabiliser epoxies – 4160P
—presence fluoropolymers – 1866P
—review, applications & – 3191
—surfactants treatment/water exchange – 9211P
polymers particles, polymers (soluble), attached/adsorbed – 9213P
pressure-sensitive adhesives, acrylics, properties – 3366
primers, polypropylene (modified) – 8194P
transparent coatings, dispersants (polymeric) – 1151P
water added to, electrocoating, cationics & – 237P
water sensitivity (low)
— 216P
—acrylics – 215P
wood stains – 3338
Non-skid
See anti-slip, anti-skid & slip resistance
Non-slip
See anti-slip, anti-skid & slip resistance
Non-stick Coatings
adhesion, methods – 8580
fluoropolymers – 1130
for plastics, sulphonates/sulphates (org) – 9579P
Non-volatiles
determination
—adhesives – 1403
—adhesives (water-borne) – 1401
—varnishes – 8894
Norbornadiene
groups, pendent, incorporation/photoisomerisation/reversion – 4737
polymerisation, by adducting with azines – 1612
Norbornane
derivatives, acrylates (polyfunctional) – 5642P
groups, pendent, acrylics, silyl groups & – 7368P, 7369P
Norbornanedicarboxylic Acids
bisimides, siloxanes (cyclic) linked by – 8165P
Norbornenecarboxylic Acids
derivatives, polyesters – 4072P
Norbornenedicarboxylic Acids
polyesters (unsatd) – 3820P
Norbornenes
derivatives, methacrylates, synthesis – 4076P
groups, macromonomers, synthesis/copolymerisation – 5684
polymerisation, catalysts, tungsten/carbenes complexes – 8068
polymerisation (ring-opening), photopolymerisable products – 8800P
Noroxo
acquisition, by Exxon Chemical – 1372
Norsk Hydro AS
restructuring/activities/plans – 9952
Norsohaas SA
acrylics – 9940
Northpoint Powder Coating Ltd
joint ventures, vapour curing – 6291
Noses
cancers of, formaldehyde, mucosa damage contribution – 4610
formaldehyde – 2969
formaldehyde/wood dusts – 2078
isopropanol – 9788
mucosa, formaldehyde exposure – 2070
olfactory function, solvents effects – 5377
Notification of New Substances (Amendment) Regulations 1986
guides/provisions – 4763
Notification of New Substances Regulations 1982
guides/provisions – 4763
implications, R & D and, & proposals – 6323
Novolacs
See also epoxy/novolacs
curing agents, for epoxies, phenols (halogenated) & – 8103P
curing agents for
—curing behaviour – 4912
—products properties – 5263
extraction, low MW removal – 8778P
fibres, structure/manufacture/uses – 9539
fluorinated
— 3321P
—synthesis from perfluoroalkenes – 3278P
—synthesis/uses, water resistance etc – 4950P
from silylphenols, photoresists – 6229P
modified, by diazonaphthalenesulphonic acid, resists – 3015P
phenols (polyfunctional) – 9869P

Novolacs *(continued)*
photoresists
— 2171P, 6239P, 9869P
—and generators/acid-sensitives – 8793P
—benzophenone (hydroxylated, modified) & – 7095P
—benzophenone diazonaphthoquinones & – 2172P
—diazonaphthoquinonesulphonates & – 9878P
—diazoquinones & – 6235P, 7104P, 8771P, 8772P
—diazoquinonesulphonates & – 7818P, 8809P
polyurethane coatings (two-component) – 1071P
radiation-curables, diazoquinonesulphonates/stabilisers – 3832P
resists
—diazo compounds & – 4656P
—diazoquinones & – 3017P
—diazoquinonesulphonates & – 7825P
—low MW removal – 8778P
—under surface decomposition (thermal) – 9591P
silyl groups, resists – 7101P, 7102P
synthesis, kinetics/modelling – 6452
unsaturated, photoresists, azides & – 6241P
Nuclear Installations
See also nuclear power stations
coatings
—contamination/decontamination, standards – 4774
—radioactivity resistance/decontamination – 8502
—resistance – 5913
—two-stage application, long gap – 361
corrosion, modelling/thermodynamics/computers – 1060
decontamination, blasting – 1729
instruments, strippable coatings – 1147P
Nuclear Magnetic Relaxation
See nuclear magnetic resonance
Nuclear Magnetic Resonance
acrylics, composition – 4216
amines (hindered), glycidyl groups – 7279
coatings analysis – 508
colloids/protons, oxides/aq systems – 1200
diallyl phthalate polymers – 6062
epoxies – 511
epoxy siloxanes – 1637
ethylene/propylene copolymers – 9666
ethylene/vinyl acetate/glycidyl methacrylate copolymers – 6073
formaldehyde, in water, pyridine/methanol components – 3667
Fourier transform, copolymers, composition – 3704
hydrocarbon resins – 7672
imaging – 4510
linoleates, curing – 8087
melamine resins – 507
methods, one-/two-dimensional – 3687
multiple-pulse, combined rotation & multiple pulse – 2860
phosphazenes (chlorinated) – 9133
polyesters (unsatd), swelling – 2871, 2872
polyethers linoleates mixtures analysis – 530
polymers
—solutions, dynamics – 1954
—solutions/macromolecular structure – 1917
—spectral analysis – 9666
polymers blends interactions – 1976
polymers field – 10003
polystyrene/polyvinyl ethers blends, solutions – 1931
pores – 7717
pulsed, epoxies/amines – 8630
solid-state
—broad band/relaxation/polymers uses – 2887
—combined rotation & multiple pulse spectroscopy – 1195
—developments – 2860
—high-resolution, techniques/polymers – 2886
—polymers, book chapters – 1979
—polymers, principles/techniques/examples – 5294
spectra, databases – 6083
titanium dioxide (reduced), hydrogen/ruthenium & – 8626
two-dimensional
—azo dyes – 8631
—polyvinylcarbazole – 1221
urea/diisocyanates systems – 4522
water, in copolymers, state/temp – 2889
Nuclear Magnetic Resonance, Aluminium-27
kaolinites calcination – 8644
Nuclear Magnetic Resonance, Carbon-13 – 3687
alkyds, components/coatings/cured systems – 2873
autoxidation & – 1213
azo dyes – 8631
bismaleimides/allyl groups, solution/solid systems – 2849
cellulose ethers – 8610
computers
—identification, library searching, visual simulation – 2850
—mixed systems/subsets – 2850
ethylene/propylene copolymers – 9666
ethylene/vinyl acetate copolymers – 3660
melamine resins – 507
nitrocellulose, substitution distribution – 8642
piperidine (substituted), simulation – 8637
polyesters (unsatd)/polybutadiene – 5698
polymers
—mixtures (multi-component) – 2851
—solutions, dynamics – 1954
—spectral analysis/simulation approaches – 9666
solid-state
—acrylics/alpha-methyl peak/tacticity – 1995
—alkyd/amino resins – 519
—phenol-formaldehyde resins (substituted) – 9716
—phosphinic acids/phosphonic acids – 9687
—silica/silanes products – 3701
styrene/butadiene copolymers, signal assignment/structure – 7685
Nuclear Magnetic Resonance, Deuterium
block copolymers, on silica – 6966
Nuclear Magnetic Resonance, Fluorine-19
styrene polymers, end groups/adjacent units – 3653
Nuclear Magnetic Resonance, Nitrogen-15
melamine resins – 507
Nuclear Magnetic Resonance, Phosphorus-31
phosphazenes (chlorinated) – 9133
solid-state, phosphinic acids/phosphonic acids – 9687
Nuclear Magnetic Resonance, Silicon-29
coupling agents, on silica – 6991
kaolinites calcination – 8644
solid-state, silica/silanes products – 3701
Nuclear Magnetic Resonance, Tin-119
antifoulings/organo-tins – 508

Nuclear Power Stations
See also nuclear installations
anticorrosives
—(chlorinated)/acrylics – 381
—polyethylene (chlorinated)/acrylics – 1762
coatings, radioactivity/decontamination resistance – 8503
Nucleation
emulsion polymerisation – 822
emulsion polymerisation (emulsifier-free) – 5686
latices, emulsion polymerisation/mechanisms – 9049
polymerisation (emulsifier-free), modelling – 5669
solutions (supersaturated), kinetics/theory – 6148
Nucleophilicity
parameters, scales – 8690

O

Oakite Products
acquisition (attempted), by Carlyle – 684
Occidental Chemical
joint ventures, Marubeni &, vinyl chloride – 690
Ocimene
copolymers, tackifiers – 4034P
Octadecyl Methacrylate
emulsion polymerisation – 3185
Odours
See also fragrance & perfumes
aluminium substrates, control – 9611P
amines, avoidance, photocurables – 7082P
assessment – 2122
control
—coatings etc against, packaging materials – 2553P
—coatings, alkyds, causes/reduction – 3340
—coatings, ferrous compounds etc – 5233P
—methods – 2122
corrosion inhibitors without – 5173P
epoxies (modified), systems without – 4921
fish oils – 8999
mercaptans, avoidance, adhesives (acrylic) – 5826P
olfactory function, solvents impairment of, tests – 5377
polyesters (unsatd), agents against – 1512P
proteins, coatings against – 8546P
reduced
—acrylates – 4860P
—adhesives (acrylic) – 9278P
removal
—from emissions, bacteria beds – 2120
—micro-organisms – 586
soyabean oil, storage & – 7985
stoving, electrocoating, masking – 4193P
ultraviolet-curables, reduction – 5453
Oenothera sp
oils, triglycerides composition – 9708
Office Equipment
painting, rinse water treatment/recycling – 9802
powder coatings, plants, conversion to – 4279
Offices, Shops & Railway Premises Act 1963
guidance – 7206
Offshore Structures
adhesives/coatings, case histories – 5049
anticorrosives – 9407
anticorrosives/maintenance – 4304
antifoulings, criteria/problems/mechanisms/economics etc – 8457
cathodic protection, coated/uncoated, design/costs – 6697
cathodic protection/overpotential effects – 369
coatings, procedures/materials/maintenance – 9415
concrete, investigations/design/maintenance/corrosion etc – 9466
concrete (reinforced), rebars corrosion – 5916
corrosion control, petrolatum tapes – 9407
corrosion/fatigue, cracking – 3467
corrosion/fouling testing cages below – 2733
corrosion/maintenance/inspection/repair – 3954
intumescent coatings, epoxies – 4380
painting, contractors – 6634
repair, adhesives, underwater – 5041
repair coatings, sleeves (heat-shrinkable)/tapes – 4308
Oil Absorption
electrocoating (cathodic)
—two coatings – 958P
—values different layers – 5020P
Oil Fields
bacteria, sampling/counting/control – 1099
Oil Industry
expert systems, moisture determination, sampling – 1194
products/services for, directories – 735
refineries, zinc/silicate paints (one-coat) – 5136
Oil Paints
accelerators, polysaccharides – 944P
DSC, ageing/pigments/oils etc effects – 5326
film formers/graft copolymers – 2522P
pigments (white), oxides (mixed) – 1487P
titanates – 43P
Oil Repellency
acrylamide polymers (fluorinated) – 4094P
acrylics (fluorinated), silyl groups – 9589P
acrylics (fluorinated)/aminocarboxylics – 5996P
anticorrosives (water-borne), fluoroalkyl groups – 9501P
basecoat/clear, NADs – 1868P
chloroacrylates (fluorinated) – 2163P
coatings
—copolymers, fluoroalkyl groups/silyl groups – 1878P
—silicones/fluorinated hydrolysable silicones – 9581P
epoxies (fluorinated)/epoxies – 124P
epoxies/fluorocarbons (functional) – 4948P
epoxy compounds (fluorinated) polymers – 4248P
fluoropolymers/acrylics/fluorinated – 1785P
polyamides (fluorinated) – 931P
polyesters (fluorinated) – 930P
polyether-esters (fluorinated), from spiro – 6459P
siloxanes/polymers products – 4130P
titanates (fluorinated) – 9499P
vinyl polymers (fluorinated) – 8121P
water-bornes, emulsion polymers/fluoropolymers – 7392P
zirconates (fluorinated) – 9498P
Oil Resistance
fluoropolymers, from vinyl ethers (fluorinated) – 4949P
Oil Wells
sucker rods, coatings, polysulphides/oxides – 3498P
water injection systems, corrosion control – 8411
Oils
See also vegetable oils and individual oils such as linseed, fish & shale oils

Oils *(continued)*
double bonds (trans), determination – 3695
essential
—analysis, Anthemis spp – 6049
—TLC – 4498
films, formation control/removal – 6748P
GC (multidimensional)/FTIR – 5292
oleochemicals, producers (US) aquisition – 5562
on substrates, adhesives tolerant to – 126P, 989, 2588P, 3393P, 3394P, 4214
proprietary, newsprint, testing – 5834
viscosity, viscosity/temp relationships – 7635
Oilseeds
statistics (world), production/trade – 3046
Oleates
autoxidation, volatiles from – 786
diffusion, in supercritical fluids – 4545
synthesis, conditions/jojoba substitution – 2276
Olefin Copolymers
amorphous, adhesives (hot-melt) – 3368
carboxylated, coatings on steel (nickel-coated) – 5939P
of maleics
—& esterification (partial) – 9115P
—synthesis, high maleics – 9114P
Olefin Polymers
blends, modification by unsatd acids, adhesives – 9277P
silyl groups, moisture-curables – 6531P
Olefins
chain transfer agents, in pentadiene polymerisation – 97P
complexes, with tungsten, initiators – 4900
copolymerisation
— 3213
—with undecenoates – 8090
cyclic, strained, polymerisation (metathesis) – 4902P
epoxidised, synthesis, epoxidation catalysts – 9097P, 9098P
metathesis, with oleates – 7994
polymerisation
—catalysts, Ziegler-Natta/tacticity – 3206
—catalysts, Ziegler-Natta/transition metals – 3214, 3215
products, with isocyanates – 167P
reaction, with epoxy compounds, presence titanium(III) – 7995
release coatings, siloxanes (unsatd, Si-H) – 9592P
vapours, monitoring, acoustic waves/coated detectors – 1236
Oleic Acid
antifoulings, rosin &, bioactivity – 4358
reaction, with free radicals (electrophilic) – 4854
Oleoresinous Compositions
undercoats, standards – 4782
Oligoesters
See also esters & polyesters
monodisperse, synthesis, blocking/deblocking steps – 4040
phase separation, water/isopropanol & – 7385
synthesis, MWD (narrower)/residuals avoidance – 2415
Oligoesters, Hydroxylated
liquid crystals, heat-curables, mechanical properties/Tg – 2386
Oligoesters, Unsaturated
from dicyclopentadiene derivatives diols – 3251P
products, with phosphites – 436
Oligomers
as models/intermediates, review – 4014
cyclic
—equilibria, linear/cyclic – 3188
—formation, review – 3179
On-line Searching
patents (European), analysis – 3921
WSCA, guidance – 9965
On-line Systems
business information, sourcebooks – 732
databases, for analytical chemists – 3075
Onfroy
acquisition, by Orkem – 695
Onium Groups
polymers, electrocoating (cathodic), cross-linking agents & – 6574P
Onium Salts
catalysts, polyurethane compsns – 9167P
curing agents, organo-metallics & – 9876P, 9877P
initiators, for orthoesters – 2412
photo-crosslinking, glycidyl copolymers & – 5413
photochemistry – 1292
polymerisation presence, epoxy compounds – 8084
Opacity
coatings, titanium dioxide, factors – 6034
theory/determination – 5260
thin films – 6858
Optical Activity
chromatography – 5603
glycidol/substituted glycidol – 9013P
metallocenes (polymeric) – 8158
polymers, book chapters – 1929
Optical Brighteners
adhesives, for wallpapers – 981P
book chapters – 3955
pyrazolines – 3151P
transparent coatings, golf balls – 9546P
Optical Character Recognition
equipment (proprietary), input to computers – 5571
printing inks, phthalocyanines – 3117P
Optical Discs
See recording materials (optically-readable)
Optical Equipment
adhesives (ultraviolet-curable) – 9902P
coatings, against reflection – 6826P
photocurables
—acrylates (polyfunctional) – 7081P
—refractive index – 4659P
scanning systems, adhesives (ultraviolet-curable) – 2994
Optical Fibres
adhesives, epoxies (fluorinated) – 3322P
adhesives (radiation-curable), epoxies/acrylates etc – 3859P
coated
—acrylamide polymers (fluorinated) – 4094P
—acrylic/urethanes, organo-silicon groups – 4135P
—acrylic/urethanes, thermo-oxidation/stabilisers – 595
—acrylics (fluorinated), curables – 7336P
—acrylics (fluorinated, modified) – 8792P
—coatings properties – 5309
—coatings requirements, review – 4418
—developments – 5223
—gamma-rays effects, polyimides – 8594
—gamma-rays effects/mechanical properties – 8594
—photocurables – 3806

Optical Fibres *(continued)*
—photocurables, acrylic/urethanes – 631P, 7108P, 9881P
—photocurables, ethylhexanediols acrylates etc – 3847P
—photocurables, styrene polymers (fluorinated) – 8806P
—polyurethanes, thermo-oxidation, in situ/films – 5334
—radiation-curables, acrylics (fluorinated)/acrylates (fluorinated) – 1313P
—radiation-curables, acrylics (fluorinated, unsatd) etc – 617P
—radiation-curables, chloroacrylates (fluorinated) – 2163P
—siloxanes (unsatd)/siloxanes (mercapto)/silanes – 5485P
—siloxanes (unsatd)/siloxanes (Si-H) – 8556P, 8557P
—stripping – 3458P
—ultraviolet-curables – 4414
—ultraviolet-curables on ultraviolet-curables – 1301P
—ultraviolet-curables, acrylates/urethanes (unsatd) – 7092P
—ultraviolet-curables, acrylic/urethanes – 643P, 3005P, 4649P, 4661P
—ultraviolet-curables, acrylic/urethanes & morpholine (unsatd) – 3026P
—ultraviolet-curables, acrylic/urethanes etc – 5492P
—ultraviolet-curables, acrylic/urethanes from isocyanurates – 7109P
—ultraviolet-curables, ageing/alkali resistance/factors – 7070
—ultraviolet-curables, epoxy/acrylates – 1300
—ultraviolet-curables, hydrogen evolution/stabilisers – 7076
—ultraviolet-curables, hydrogen generation inhibition – 4672P
—ultraviolet-curables, modulus/cure temp – 5438
—ultraviolet-curables, organo-silicons – 608P
—ultraviolet-curables, requirements/application/chemistry – 5439
—ultraviolet-curables, siloxanes (unsatd) – 7118P
—ultraviolet-curables, stabilisers etc & – 1330P
—ultraviolet-curables, stripping – 3458P
—ultraviolet-curables, urethanes/ureas (unsatd) – 5462P
coatings application, air entrainment avoidance – 4285P
colourants, ultraviolet-curables, acrylates/pigments etc – 9900P
FTIR (reflectance, remote) with – 3645
manufacture/coatings requirements/coatings – 4414
photocurables, refractive index – 4659P
Raman spectroscopy (remote) with – 3644
ultraviolet-curables
—formulation/water effects etc, review – 5436
—sulphur compounds/hydrogen avoidance – 9901P

Optical Properties
adhesives, mechanical/durability properties & – 5050
adhesives (ultraviolet-curable), coupling agents & – 6159
automobiles components, requirements – 1114
coatings
—porosity – 477P
—transmittance-controlling additives – 8575P
determination, during DSC – 1202
iron oxide hydroxide (acicular), films/orientated needles – 489
mica (coated) – 3112
nacreous pigments
— 1455
—theory – 8568
paint films, review – 7630
paper, theory – 7633
paper coatings, Kubelka-Munk/anomalies – 9704
pigments (org) – 3962
waveguides
—evanescent wave effects – 1198
—surfaces of as sensors – 1198

Optical Switches
– 4236

Ores
manganese dioxide, anticorrosive primers – 1759

Organic Compounds
See also 'volatiles, organic'
effluents, finishing/regulations (US) – 581
FTIR (emission, flame) – 6948
gases, sampling, diffusive samplers – 1431
MS, ionisation methods – 1197
removal, from water, membranes/evaporation – 8732
solubility, in polymers, from structure – 7719

Organo-aluminium Compounds
air-drying coatings, chemistry/mechanisms – 2302
initiators
—trifluoroacetates & – 9087
—vinyl ether adducts & – 5678

Organo-antimony Compounds
catalysts, oxazolidones groups formation – 2454

Organo-bismuth Compounds
antifoulants, decomposition in water – 4368P

Organo-boron Compounds
antioxidants, hydroperoxides decomposition – 7277
initiators, polymerisation (anionic) – 4973

Organo-boron Groups
counterions, dyes with – 8773P

Organo-chlorine Compounds
wood preservatives, solvents &, carcinogenicity – 2068

Organo-copper Compounds
functional groups, synthesis/epoxy reactions – 7997

Organo-germanium Compounds
initiators, polymerisation (group transfer) – 4071P
polymeric, resists – 4665P

Organo-lead Compounds
air pollution, sources – 7791
detection, GC/AAS, speciation & – 6068
determination, in air, sampling & – 7791

Organo-lithium Compounds
coatings, against ice etc – 1135

Organo-metallic Compounds
antifoulings, siloxanes etc (unsatd) polymers & – 8467P
complexes, catalysts (latent), polyurethane compsns – 8144P
curing agents, onium salts & – 9876P, 9877P
HPLC, AAS detection – 2882

Organo-metallic Compounds *(continued)*
silyl groups, initiators – 2531P, 2532P
synthesis/reactivity etc, weakly co-ordinating anions, review – 2280
Organo-metallic Groups
pendent, metallocarbenes, polymers, synthesis/reactions – 8153
Organo-molybdenum Groups
metallocarbenes, polymers, synthesis/properties – 8153
Organo-phosphorus Compounds
photocurables, epoxy compounds (unsatd) etc & – 3854P
Organo-potassium Compounds
synthesis, initiators – 2324
Organo-selenium Groups
phthalocyanines – 13P
Organo-silicon Compounds
acetoacetyl etc groups, chelates – 5656P
acrylamide groups, ultraviolet-curables – 9855P
ammonium groups, resists treatment with – 1329P
anti-foaming agents – 7274
curing agents, release coatings – 9633P
fibres from – 3961
film formation, thermal treatment & – 7360
fluorinated, adhesion promoters – 3457P
grafting, on cellulose derivatives – 1646P
hydrolysates, tin compounds &, antistatics – 7600P
initiators
—polymerisation (group transfer) – 3193, 4008, 4039, 4047, 4071P
—polymerisation (group transfer) catalysts & – 865P
initiators (polyfunctional), polymerisation (group transfer) – 852, 4059
isocyanate groups
—acrylic/urethanes – 4135P
—curables – 4175P
isocyanates, fluoropolymers (reactive) & – 210P
mercaptan groups
—ultraviolet-curables – 608P
—ultraviolet-curables, unsatd & – 9855P
polymers, resists, top layers – 4634
polymers (silicon-modified), coatings, adhesion – 5770P
silicon chains double/single bonds alternating – 3326P
silyl groups, wood treatment, coatings after – 1802P
treatment with
—diamonds surfaces – 7743
—plastics substrates surface layers – 1837
unsaturated
—polymerisation (group transfer) – 3193
—radiation-curables, polymerisables & – 3023P
—ultraviolet-curables, mercapto & – 608P
urea groups, additives/glass fibres treatment – 1520P
Organo-silicon Groups
moisture-curables – 6540P
polymers
—adhesion promoters – 4433P
—cross-linking, compsns, antioxidants & – 4132P
Organo-sulphur Compounds
nitrogen-containing, ultraviolet-curables, hydrogen control – 9901P
Organo-tellurium Groups
phthalocyanines – 13P
Organo-tin Compounds
antifoulings
—micro-organisms/organo-tins in biofilms – 7573
—pollution/degradation half-life – 6203
—regulations (various countries)/future – 717
—regulations/controls/directives – 4740
—Select Committee reports – 4768
—testing, Mallorca – 3502
antifoulings (water-line), rosin/polymers & – 4356
association, in solution – 5763
biocides – 3520
catalysts, from tin compounds/dicarbonyl – 6530P
catalysts (supported), for curing – 9060P
coatings, stain resistance – 6744P
complexes, from benzothiazolines – 4363
degradation, in coatings – 2714
detection, GC/AAS, speciation & – 6068
detection/speciation, HPLC/detectors – 6106
determination
—in fish/sediments, speciation – 6087
—in polyvinyl chloride, extraction/GC – 1994
—in sediments, extraction/liquid chromatography – 1938
—in water, analysis (trace) – 1993
—in water, speciation/liquid chromatography – 2001
effluents, regulations (UK) – 9976
from diorganotin bischelates/carboxylics – 6529P
HPLC, AAS detection – 2882
initiators, polymerisation (group transfer), polymers (star) – 4071P
monitoring, oysters/mussels in – 3787
mussels, levels, USA – 8737
NMR (tin-119), groups & – 508
oysters, effects/ban effects – 9521
pollution, toxicity/monitoring/fate etc, review – 2726
pollution (marine), biota effects – 7786
sampling/determination, containers adsorption losses – 7655
ships, regulations problems – 8727
TLV, ACGIH documentation – 7044
toxicity, effect levels/various species – 9801
unsaturated
—acryloyloxybenzoates, synthesis/copolymerisation – 8161
—biocides – 9520
water pollution, sources/fate/determination – 4613
wood preservatives, effectiveness/temporal degradation – 5945
Organo-tin Groups
polymers with
—antifoulings, fouling films effects on – 3516
—copolymers, binary/ternary, azeotropy – 192
—copper (compounds)/metal powders & – 1812P
—from carbonates (unsatd)/organo-tins – 918
—light scattering/viscosity – 6161
—polymers (water-soluble)/antifoulants & – 6762P
—testing, Mallorca – 3502
siloxanes, antifoulings – 9510
Organo-titanium Compounds
electrocoating (cathodic), polymers/silyl groups & – 8215P
initiators, polymerisation (group transfer) – 6491
Organo-tungsten Groups
metallocarbenes, polymers, synthesis/properties – 8153
Organosols
See also non-aqueous dispersions

Organosols *(continued)*
fluoropolymers/polymers (fluorinated), polymerisation for – 5846P
Orientation
in metallic finishes, application/thixotropy index – 3579P
magnetic pigments, flow & – 4550
pigments (flake)
—reflectance, basecoat/clear systems – 2817
—spraying, impact/drying changes – 2819
polymers surfaces, spectroscopy (reflectance, internal) – 2874
Orkem
acquisitions by
—more of Avi – 1376
—of Onfroy – 695
—of part Sartomer – 3888
acrylic monomers, plants plans – 7880
CdF Chimie renamed, performance/plans/acquisitions – 695
divestments, Noroxo – 1372
maleic anhydride, joint ventures/plants – 7893
Orkem Chemical
acrylic acid/styrene/maleic anhydride – 5545
Orkem SA
financial performance – 5554
investment, chemicals field – 7166
joint ventures, Rohm & Haas Co & – 9940
Orthocarbonates
from dichlorobenzodioxoles, epoxy compsns – 4925P
spiro compounds, thioethers groups, polyurethanes – 5759P
spiro type
—allyl, products mercaptoalcohols – 6479P
—epoxies curing presence – 6448
—groups (main chain), thioethers/urethanes links – 6478P
—mercaptan groups, derivatives – 6477P
—methylene groups/polymerisation – 5718
—synthesis/polymerisation/expansion – 5716
—thioethers groups – 4943P
—thioethers groups, hydroxylated – 4944P
—ultraviolet-curables – 5403
Orthoesters
bicyclic
—groups (pendent), polymers, expansion on curing – 8115P
—groups, powder coatings – 1686P
—polymerisation, initiators (polymeric) – 7343
—vinylbenzyl ethers of – 8011P
polymerisation (cationic)
—2401
—initiators – 2412
polyurethanes synthesis, during/after – 9157P
spiro type
—conductive coatings – 9564P
—fluoroalkyl groups – 6458P
—fluoroalkyl groups, polyether-esters – 6459P
—groups, polymers (carboxylated) – 4938P
—groups, polymers (self-crosslinkable) – 4913
—polymers, conductive coatings – 7623P
—ultraviolet-curables – 5403
spiro-type, coatings before epoxies – 1173P
stabilisers, for polyamic acids solutions – 178P
Osmium
complexes, photosensitisers ('bound') – 3796
Osmometry
– 1961
virial coefficients (second), theory – 8619
Osmosis
disbonding – 5160
Osmotic Pressure
latices, polymers (carboxylated), ion binding – 543
Ovens
See also stoving ovens
electric, infrared drying – 5083
for vehicles (motor) – 6631
gradient, for testing – 7711
heat-resistant coatings, abrasion resistance – 5238P
proprietary, laboratories – 9655
pyrolysis, paint stripping – 8377
radiant, for powder coatings, use – 7478
Overprint Varnishes
electron beam-curable, printing (gravure) – 5433
radiation-curable
—acrylics/essential components etc – 603P
—epoxy/acrylates (modified) – 5425
—intercoats (water-borne) – 4640
—scratch resistance – 3023P
ultraviolet-curable
—advantages/costs/application etc – 5418
—application methods/application testing – 5095
—comparison with water-bornes – 3813
—for cans – 6602
—for packaging for food – 9827
—selection/problems – 5095
—versus water-bornes – 4632
water-borne
—as intercoats, radiation-curables over – 4640
—comparison with ultraviolet-curables – 3813
Overspray
avoidance, spraying (low-pressure, high-volume) – 1728
emulsion paints, spraying (dry fog)/overspray powder formation – 5016P
powder coatings, sieving – 7456
temporary protection materials, solvents (water-soluble) – 5933P
treatment
—detackifiers, polymers blends as – 7508P
—with amino & styrene/acrylic – 591P
water washing
—detackifiers (proprietary) – 7052
—detackifiers, acrylics/melamine resins – 5397P
—detackifiers, resins blends – 4627P
—detackifiers, resins blends as – 8746P
—detackifiers/separation by foaming – 5396P
—emulsion breaking/centrifugation – 7805P
—treatment – 2978P
—treatment, amino resins/coagulants (polymeric) – 5395P
—treatment, oxides/fatty acids – 4626
—treatment/sludges drying – 7054
water-bornes, water wash treatment, flotation – 2974
Overstoving
polyesters/melamine resins, softening – 9642
Oxadiazoles
groups
—main chain, polybenzimidazoles – 6493
—main chain, polyesters (aromatic) – 7339
unsaturated, copolymers/fluorescence/reactivity ratios – 9125
Oxalates
layers, printing plates – 8525P

Oxalates *(continued)*
patina, from protective treatments – 5574
precipitation, corrosion control – 8639
Oxalic Acid
activators, paint strippers – 2650P
amides, copper migration prevention – 269P
coatings, for mines walls – 9603P
pretreatment, chelating agents etc & – 3455P
Oxamides
polymeric, stabilisers (light), piperidine compounds & – 7284P
ultraviolet absorbers, piperidine/oxanilide groups – 1504
Oxanilides
stabilisers (ultraviolet), ultraviolet-curables – 9887P
ultraviolet absorbers – 70P
Oxaphosphorinanes
photoinitiators, acyl groups – 8784P
products, flame retardants, blooming resistance – 1112P
Oxathiolanes
polymerisation (cationic) – 2488
Oxazepines
difunctional, blends, & phenolics reaction – 6505P
Oxazines
difunctional, blends, & phenolics reaction – 6505P
spiro compounds, photochromicity – 6614P
Oxazinones
synthesis, from fatty acids (epoxidised) – 9507
Oxazoles
derivatives (fused-ring), polyamides – 7350P
Oxazolidinediones
polymerisation (anionic), review – 2451
Oxazolidines
derivatives MW (high), catalysts (latent) from – 4164P
moisture-curables, maleic anhydride copolymers & – 6539P
Oxazolidone Groups
epoxies, synthesis – 6461P
epoxy/urethanes (unsatd) – 3300P
from epoxies/polyisocyanates, catalysts – 2454
Oxazolidones
chlorinated, synthesis/antimicrobial activity – 3522
polyols/diols blends, compatibility by – 9092P
synthesis, isocyanates/glycidyl ethers/catalysts – 8137
unsaturated, diluents (reactive), radiation-curables – 2141P, 2142P, 2143P, 2144P, 2145P
Oxazoline Groups
siloxanes, from epoxy siloxanes/cyanates – 4128P
Oxazolines
coatings, acrylics/silyl groups & – 5847P
difunctional, blends, & phenolics reaction – 6505P
grafting, on polysaccharides – 202
polyethyloxazolines, adhesives (water-borne), acrylics & – 7424P
polyfunctional, copolymers with phenols, catalysts – 2469P
polymerisation (cationic)
— 2449, 5735
—macromonomers from – 4103
polymerisation (ring-opening) – 4051
products, with phosphonic acids (unsatd)/phenolics – 1615P
Oxazolinones
products, with tetramines, polybenzimidazoles – 6493
Oxetanes
polyethers, from tetrahydrofuran & – 138P
polymerisation (cationic) – 2399
polymers, & synthesis – 9091P
synthesis, from allylsilanes/ketones – 4858
Oxidation
alkanes, catalysts – 7991
benzaldehyde, in air, catalysts oscillations – 2293
butadiene polymers, coatings binders by – 3210
catalysts, cobalt compounds – 45
fatty acid esters, monolayers/bulk, temp & – 38
polyester-urethanes, by magnetic pigments – 4536
polymers
— 3668
—special features – 7291
resistance, thioethers (unsatd) polymers – 3327P
solvent vapours, catalysts – 9823
soyabean oil, variety/temp & – 41
Oxides
adsorption on, ions, physical/chemical, separation – 9745
anticorrosives, polysulphides & – 3498P
coated, with sols/silicones on – 1484P
coatings, pipes, resins & – 6669P
films, on iron & iron alloys, MS – 4486
hydrated, ion-exchange materials – 6758P
metal
—colloids, protons on/NMR etc/susceptibility – 1200
—films, from diketones/alkoxides etc – 5129P
—pigments (org) coated by – 5624P, 5625P, 5626P
—powder coatings, vinyl acetate copolymers etc – 8244P
—powders (spherical), alloys combustion – 1486P
—sols, surfactants &, interactions/dispersion – 2255
metalloxanes, products with silanes – 1596P
microparticles, dispersions (org) manufacture – 1478P
mixed
—Al/Mg/Zn, anticorrosives – 3974P, 5168P
—Ca etc, anticorrosives, phosphates & – 5937P
—Fe/Al, core/outer layer – 4822P
—Fe/Ti, on pigments (flake) – 7976P
—Fe/Zn etc – 5632P
—infrared emission coatings containing – 2785P
—Ti/Fe, studies/iron(III) reduction – 4546
—Ti/Ni/Sb etc, yellow – 6388P
—Ti/Zr – 1487P
point of zero charge, mass titration – 8683
Oximes
acrylates, polymers, amino groups from – 2462
derivatives, photosensitisers/polymers (unsatd) & – 604P
esters, photocurables – 9849P
groups, acrylics, photodegradation – 5244P
products, with acrylates, isoxazolidines derivatives from – 176P
Oxygen
absorption, cobalt complexes – 5645P
atomic
—resistance to – 165
—resistance to, siloxanes copolymers – 4419
barrier coatings, for plastics – 5984P
diffusion
—determination by radicals scavenging – 7730
—in polymers – 4554
inhibition by
—acrylates resistance to – 9892P
—DSC/photopolymerisation – 5331

Oxygen *(continued)*
—radiation-curables, additives against – 9886P
—reduction, pyrrolidones (N-methyl etc) – 3000
—sheets (temporary) against – 338P
—ultraviolet-curables without – 608P
oxidation by, catalysts, cobalt compounds – 45
permeability
—films (polymer), humid conditions – 6993
—pigments (flake) – 4547
—vinyl alcohol copolymers, heating effects – 8704
reaction, with cobalt complexes – 46
scavengers, amines as, photopolymerisation – 1286
scavenging, packaging materials – 7067P
singlet
—polymers/dyes, generation by ultraviolet – 838
—reaction with hexadienes – 2287
Oxygen Demand
biological, sensors, micro-organisms use for – 4519
Oxygen Index
determination, experimental factors effects – 4561
epoxy/amine adducts, from phosphine oxides – 9541
parameters, pressure/applied forces effects – 6155
plastics/foams, temp &, decrease – 5330
Oxyplast
acquisition, by Evode – 7878
Oysters
organo-tins, levels, USA – 3787
tributyltin compounds, effects/ban effects – 9521
Ozone
hazards, review – 6193
layer
—chlorofluorocarbons/USA – 9824
—depletion, counteraction by troposphere increases – 9821
—depletion, fluorocarbons, measures against – 1387
—depletion, measures against, agreements – 9819
—depletion, substances control/layer protection – 1386
—ultraviolet curing & – 8353
photolysis products, stabilisers & – 55
resistance, polymers (chlorinated) – 160P
stabilisers against – 55
treatment with – 5874

P

Packaging
adhesives (water-borne) for – 6587P
adhesives for – 992
adhesives/coatings for, regulations (US) – 2220
coatings – 1159P
coatings for, infrared drying – 2631
companies acquisition – 1373
food
—overprint varnishes (ultraviolet-curable) – 9827
—primers for aluminium – 6756P
food etc, coatings etc for, ascorbic acid etc – 2553P
from metals, paint manufacturers/Australia/world – 5544
from plastics, coatings/strain compliance – 5975
from steel, advantages – 2981
glass flakes, with liquids – 3123P
hazardous materials
—regulations (German) – 9983
—regulations (UK) – 3927
—regulations (UK), Northern Ireland – 5583
—transport (air) – 5586
—transport (road) – 5584
—transport/regulations (European) – 1399
hot-melts – 258P
instructions/safety information with products – 2240
lead compounds, lead levels from – 5390
paints, cans design, labels – 5519
polymers for, identification, pyrolysis/MS – 5299
powders, dusts exposure/control – 9767
printing inks for, requirements – 271
regulations (European) – 5580
Packaging Materials
adhesives (water-borne) – 5043
oxygen scavenging – 7067P
Paint Boxes
standards – 4777
Paint Cans
See cans, & also containers
Paint Defects
See also defects & individual defects
automobiles, in-service/Which? – 4302
avoidance, surfactants – 8016
contaminants on substrates causing – 2639
design factors – 9193
disputes, litigation avoidance – 6289
electrocoating, avoidance, baths treatment – 2641P
fibres, extraction/classification/identification – 6130
FTIR
— 4524
—techniques/equipment etc – 8643
impedance spectroscopy – 5905
micro-organisms, species/mechanisms/control – 8459
microscopy, photography &, techniques/case histories – 9748
MS (laser microprobe)/microscopy, causes finding – 3649
petrochemical industry, case histories/guidelines – 5918
plastisols – 7440
powder coatings
—application/diagnostic kits – 7723
—contaminants – 2561
—types/causes – 1680
—types/causes/avoidance – 8233
solvents &, reduction – 2467P
spatial distribution/clustering – 8409
water-bornes, case histories/recommendations – 5007
weathering (accelerated), natural simulation – 9470
wetting (poor)/foam formation – 439
wood substrates
—remedial work & – 308
—types/control – 8518
Paint Factories
UK, closure – 3884
Paint Films
analysis, methods – 1972
optical properties, review – 7630
Paint Industry
computers, expenditure – 5509
equipment, marketing – 4701
statistics/forecasts – 6262

Paint Industry, American (North)
coil coatings – 7143
powder coatings – 6263
statistics – 7896
Paint Industry, Argentine
statistics – 7148
statistics/imports – 7835
Paint Industry, Asian
powder coatings
— 7145
—statistics/forecasts – 4687
Paint Industry, Asian (South-East)
investment/opportunities for foreign – 8829
Paint Industry, Australian
acquisitions, by UK – 2204
companies/competition – 5525
statistics/companies/acquisitions – 3863
statistics/exports/imports – 3872, 7136
Paint Industry, Austrian
statistics – 655
statistics/companies/markets etc, book chapters – 6270
statistics/exports/imports – 649
statistics/structure/market trends etc – 662
Paint Industry, Belgian
statistics – 655
statistics/companies/markets etc, book chapters – 6270
statistics/prospects/single European market – 6266
Paint Industry, Brazilian
companies/products – 7846
statistics/companies – 9959
statistics/exports/investment – 7154
statistics/forecasts/investment/companies – 3897
statistics/imports – 7835
Paint Industry, Bulgarian
statistics – 9914
statistics etc – 6270
Paint Industry, Canadian
statistics – 1344
Paint Industry, Chinese
imports/forecasts – 5499
powder coatings – 3873, 7129
Paint Industry, Colombian
statistics/imports – 7835
Paint Industry, Cuban
statistics – 7156
Paint Industry, Czech
statistics – 9914
statistics etc – 6270
statistics/companies/trends – 4679
Paint Industry, Danish
statistics – 651, 655
statistics/companies – 7134
statistics/companies/markets etc, book chapters – 6270
Paint Industry, Dutch
do-it-yourself, statistics/retailing – 1343
regulations & – 2224
statistics – 655, 2189
statistics/companies/markets etc, book chapters – 6270
Paint Industry, Ecuadorean
statistics/companies – 7149
Paint Industry, European
powder coatings – 2188, 7147
statistics – 253
West
—statistics – 1337
—statistics fourteen countries – 655
—statistics/forecasts – 2187
Paint Industry, European (East)
statistics – 9914
statistics etc – 6270
Paint Industry, European (West)
coil coatings – 2186
companies types/trends/statistics – 2182
health/environment pressures – 5582
powder coatings – 6259
statistics/markets – 2181
statistics/predictions/resins types – 1347
statistics/uses/forecasts – 2185
Paint Industry, European, (East)
statistics – 7156
Paint Industry, European, (West)
statistics/companies/structure etc – 6270
Paint Industry, Finnish
statistics – 655
statistics/companies/markets etc, book chapters – 6270
Paint Industry, French
companies/market shares/advertising – 7131
retailing/advertising/statistics – 6279
solvents, statistics – 7126
statistics – 655, 657, 4693, 9916
statistics/companies/markets etc, book chapters – 6270
statistics/industry structure/acquisitions/companies – 9920
statistics/markets/joint ventures etc – 1361
statistics/markets/technical developments/CERIPEC etc – 1359
trade associations, activities – 6315
Paint Industry, German
statistics – 655
West, statistics/problems/future – 6264
Paint Industry, German (East)
statistics – 1362, 4697, 9914
statistics etc – 6270
Paint Industry, German (West)
binders for, statistics – 654
employment advertisements – 7146
interviews/forecasts etc – 7189
prospects/expectations etc, views – 6314
s employments adverts analysis – 4675
statistics
— 1334, 3101, 4684
—exports/imports – 647
statistics/companies/markets etc, book chapters – 6270
trade/Europe/changes/environment etc – 668
Paint Industry, Greek
statistics/companies/markets etc, book chapters 6270
Paint Industry, Hungarian
– 2184
statistics – 9914
statistics etc – 6270
Paint Industry, Indian
– 9195
associations, history/activities/achievements – 6296
collaboration
—with Japanese – 3869
—with Japanese etc – 1378
decorative coatings, types/future etc – 1648
developments (technical)/health & safety etc – 1378
history – 1648
history/structure/status/statistics – 3040

Paint Industry, Indian *(continued)*
performance/problems/import etc duties/forecasts – 6246
powder coatings – 977
structure/companies/statistics/research/raw materials – 1354
water-bornes – 948
Paint Industry, Irish
distributors/sales companies for UK – 2194
statistics – 1348, 8822
statistics/companies/markets etc, book chapters – 6270
Paint Industry, Israeli
statistics – 4695
statistics/trade etc – 1339
Paint Industry, Italian
companies, profiles – 4810
directories – 5607
market trends/statistics – 9906
powder coatings – 253
statistics
— 655, 2118, 6265, 7130
—costs/added value – 1357
—foreign trade – 7127
statistics/acquisitions/market developments – 648
statistics/companies/markets etc, book chapters – 6270
wood finishes, statistics/companies – 8824
Paint Industry, Japanese
collaboration, with Indian – 3869
companies, details/statistics/performance – 6269
financial performance of companies – 7173, 7175, 7176, 7177, 7179, 7222
statistics – 653, 8821
statistics/companies – 4676
titanium dioxide demand – 1338
ultraviolet-curables – 8823
Paint Industry, Korean
powder coatings – 3874, 7135
statistics – 3874, 7135
statistics/foreign trade/companies/etc – 4694
Paint Industry, Malaysian
– 2190
statistics/forecasts/companies – 2191
Paint Industry, Mexican
statistics/imports – 7835
Paint Industry, Nigerian
statistics/companies – 6253
Paint Industry, Norwegian
statistics – 655
statistics/companies/exports/imports – 4678
statistics/companies/markets etc, book chapters – 6270
Paint Industry, Philippine
exports/quality standards/prospects – 7124
forecasts/problems – 5498
Paint Industry, Polish
statistics – 6249, 9914
statistics etc – 6270
Paint Industry, Portuguese
statistics – 655
statistics/companies/markets etc, book chapters – 6270
Paint Industry, Romanian
statistics – 9914
statistics etc – 6270
Paint Industry, Russian
plans (five-year) – 7371
problems – 2178
raw materials, shortages/variety of paints – 1649
requirements assessment, for retail – 7371
statistics – 7156, 9914
statistics etc – 6270
statistics/developments/research/markets/future etc – 1335
statistics/imports/foreign companies etc – 1346
Paint Industry, Spanish
statistics – 655
statistics/companies/markets etc, book chapters – 6270
Paint Industry, Swedish
statistics – 655
statistics/companies/markets etc, book chapters – 6270
Paint Industry, Swiss
building industry, statistics – 4696
statistics
— 655
—foreign trade – 7144
statistics/companies/markets etc, book chapters – 6270
statistics/market growth/concerns etc – 6256
statistics/structure/imports/exports etc – 1342
Paint Industry, Thai
decorative coatings/companies/statistics – 7138
market/statistics/companies – 3864
problems/developments/statistics – 6320
Paint Industry, Turkish
statistics/companies/imports etc – 1350
Paint Industry, UK
acquisitions, lists etc – 2242
acquisitions/joint ventures, in/of/by – 3919
forecasts/structure – 7128
gloss paints (white), market shares – 9923
gloss paints etc, statistics/forecasts – 7139
links with US – 8961
market sectors values – 5531
markets, shares/changes/forecasts – 1341
statistics
— 655, 5507, 7844
—wood coatings/stains – 4677
statistics/companies/markets etc, book chapters – 6270
statistics/market surveys/forecasts – 2183
statistics/markets/companies – 2242
Paint Industry, Uruguayan
statistics/companies/raw materials – 4690
Paint Industry, US
acquisitions/divestments, driving forces/general forecasts – 7121
anticorrosives, statistics/forecasts – 6254
coil coatings – 2186, 3035
financial performance of companies – 5510, 7150
forecasts, paints/equipment – 7157
links with UK – 8961
marine coatings – 2716
outlook, by eight companies, for eighty-nine – 3333
powder coatings – 3029
raw materials, demand forecasts – 1351
regulations (US), situation/developments – 7202
solvents & – 3041
statistics – 1352, 1363, 6255, 6275, 7188
statistics/forecasts – 7836
statistics/forecasts/environmental/productivity – 5514
statistics/market – 1360
statistics/product developments/forecasts etc – 3041

Paint Industry, US *(continued)*
statistics/raw materials/volatiles/products – 7152
trade associations
—Chicago, history etc – 1380
—regulations/graffiti/solvents/watchdog etc – 3072
trends, environment &, exhibitions – 2511
Paint Industry, Venezuelan
statistics/imports – 7835
Paint Industry, World
acquisitions/joint ventures – 3919
companies, top ten – 2182
financial performance, thirty-three companies – 5605
powder coatings – 7845
restructuring – 2213
restructuring/statistics/acquisitions/specialisation – 5494
statistics/forecasts/top ten/markets – 8825
statistics/future – 660
statistics/prospects – 6265
Paint Industry, Yugoslav
statistics etc – 6270
Paint Manufacture
automation
—computers – 2519
—plants – 5080
—quality control – 1723
cancers, epidemiology, review – 9797
computers
—databases/formulation/calculations – 4148
—programmes, inventories/sales/production etc – 4700
—raw materials/inventory/labelling etc – 3336
costs, reduction, USSR – 7833
decorative coatings, plants (Israeli)/automation – 7458
dusts, control – 7803
electrocoating (cathodic) compsns – 4185P
emulsion paints
— 948
—thickeners incorporation – 2299
equipment
—directories – 4990
—directories (European) – 10007
—directories (French) – 5600
—directories (Italian) – 5607
—raw materials production &, review/USSR – 1028
—USA, types/buying plans – 7157
equipment (proprietary) – 3412, 7448
management, just-in-time – 3050
micro-organisms, contamination by, sources/control – 7575
plants (Japanese), processes – 7446
plants (pilot), design/lay-out etc – 7463
plants (US), aerospace etc systems – 5568
pollution – 584
powder coatings
— 2563
—modelling/productivity – 8234
pumps
—choice – 2623
—developments – 1032
quality control
— 2010, 2024
—instruments/standards – 2033
tanks, cleaning, pumps/water – 7449
wastes
—costs/wastes prevention – 3876
—material loss causes/reduction – 3878
—materials extraction – 8745P
—solvents recovery/wastes minimisation – 3877
water-bornes, alkyds – 8226P
Paint Manufacturers
American (North), subsidiaries of UK, reorganisation – 683
Argentine, acquisition by German subsidiaries – 675
Australian
—acquisition by UK – 7856
—acquisition by UK, bids – 1379
—coatings for metal packaging – 5544
—financial performance – 7165
—products/philosophy/locations etc – 3902
Austrian
—financial performance – 9928
—profiles – 4734
Belgian
—plants – 4722
—subsidiaries of Dutch, restructuring etc – 4713
Canadian
—joint ventures buy out – 692
—joint ventures buy-out – 3060
—powder coatings – 3868
Dubai, powder coatings ventures – 7898
Dutch
—acquisition by Italian – 9938
—plants etc, refinishes etc – 7182
Ecuadorean, output/product areas – 7149
Egyptian, Belgian/Egyptian joint ventures – 7891
European
—coil coatings – 5526
—financial performance – 5605
—lists/addresses – 10007
French
—Eiffel Tower/plants/activities/products – 3901
—financial performance etc – 9920
—financial performance/plans – 5554
—financial performance/subsidiaries – 9937
—lists – 5600
—powder coatings – 6319
—profiles/plants – 9962
—shares acquisition in – 1376
—subsidiaries of German, plants/activities – 4731
German
—East, interviews – 6322
—for painters co-operatives – 697
—interviews – 704
—performance/activities – 671
—vehicles (motor) engines/heat-resistant – 2212
—West – 5566
—West, financial performance/activities – 7858
—West, financial performance/overseas activities – 7171
—West, interviews with chairman – 7189
—West, investment, Germany/overseas – 7172
—West, mergers – 6312, 7167
—West, structure/performance – 5553
Indian
—acquisition of – 1366
—history/capacity etc – 3068
—profiles – 3920
—share prices – 7832
—speciality coatings, plants (planned) – 4725
Irish, liquidation – 2194
Italian
—acquisition by Dutch – 9938
—acquisition majority shares – 6307
—furniture lacquers, acquisition UK – 7869

Paint Manufacturers *(continued)*
—marine coatings, joint ventures – 9936
—plants in Spain – 4717
—profiles – 5537
—restructuring – 3065
Japanese
— 4676
—financial performance – 5605
—financial performance/activities – 7173, 7175, 7176, 7177, 7179
—joint ventures, overseas & – 3912
—plants (planned), Japan/Singapore – 4707
Korean (South), joint ventures – 3911
Mexican, acquisition by Dutch – 694, 3056
New Zealand
—acquisition by UK – 2207, 5559, 7878
—acquisition offers – 6308
Norwegian, financial performance/acquisitions – 9951
Portugese, plants/products/computers/acquisitions – 6313
Portuguese, plants/products/computers – 4733
powder coatings
— 8828
—plants expansion (USA) – 4724
products etc – 7186
R & D, vehicles (motor) finishing facilities – 699
Spanish
—cans etc coatings, acquisition by UK – 3914
—turnovers/location changes – 680
statistics, top ten – 8825
Swedish
—financial performance – 2197
—joint ventures buy out – 677
—restructuring in Italy – 3065
Swiss
—powder coatings joint ventures – 7884
—profiles/plants – 6321
—warehouses/factories – 1377
Taiwanese, acquisition by Japanese – 3916
UK
— 7190
—acquisition by UK – 685, 703, 5559, 6308
—acquisition offers – 1381
—acqusition by UK – 3908
—coil coatings etc products – 3918
—decorative coatings, acquisition by French, bids – 2215
—distributors acquisition – 3885
—electrostatic spraying demonstration facilities – 3069
—expansion plans – 686
—factories closure/investment – 3884
—financial performance – 5541, 5542, 7183
—financial performance/plans – 5540
—German parents – 7852
—holding companies/financial performance – 7906
—industrial finishes, competitiveness improvement factors – 8813
—management buy-backs – 3894
—management buy-outs – 4721
—marine coatings, profiles/products – 672
—marine/powders/cans, activities etc – 5565
—plans after acquisition by French – 3907
—plants closure, Glasgow – 4723
—plants investment, Runcorn – 9946
—powder coatings – 8828
—production/warehouses/profits – 6301
—profiles – 7170
—research etc/products/acquisitions – 2213
—support packages for retailers – 9926
US
—accidents record-keeping – 6181
—acquisition – 7881
—acquisition (attempted) of – 684
—acquisition by Dutch – 7184
—acquisition by UK – 9955
—activities/financial performance/overseas – 5564
—activities/globalisation/strategies – 7905
—Chicago, & nearby, history – 702
—Chicago, history – 700, 701, 1380
—decorative coatings etc – 8842
—financial performance – 5605
—labelling, computers/hazards codes – 8747
—licensing, fluorpolymers – 6287
—plants (new) – 7853
—products/plants – 5563
—statistics/activities/prospects – 7188
—water-bornes, plants (new) – 9334
vehicles (motor), original/repair – 5524
world, top ten, statistics/market share – 8818

Paint Rollers
See rollers

Paint Strippers
amides/alkanolamines – 1048P
amides/amines – 342P
carboxylic acids/glycol ethers/lactams or lactones – 8378P
fire resistance, hydrocarbons (halogenated)/oxygenated – 9397P
for spray booths walls – 9394P
glycols ethers/cyclics/carboxylic acids – 6681P
hydrocarbons (chlorinated), activators – 4295P
joint ventures, Thailand – 3899
manufacturers (UK), acquisition – 685
methylene chloride, replacement materials problems – 7023
solvents (chlorinated)
—surfactants from polyethers – 9396P
—thickeners (inorg)/accelerators – 344P
solvents/binders/fibres, peeling – 5896P
solvents/diesters/thickeners etc, activators – 2650P
thickeners/surfactants/aromatics – 9394P
trioxane, hydrocarbons/alcohols & – 9393P
types, hydrocarbons (chlorinated) avoidance – 6676
water-borne
—aminoalkanesulphonics (fluorinated) – 1758P
—paints from skin – 5131P
—pyrrolidones/rhamsan gum – 4297P
—thixotropy, esters/thickeners – 5131P

Paint Stripping
See also stripping
blasting, plastics media – 5894
developments – 1757
equipment, excitation ultrasonics frequency – 9398P
fluidised beds – 7515
graffiti removal, coatings under with resistance – 7608
hazards/precautions – 6178
hot, alkaline/org & org systems – 4294
lead-containing paints, methods/dusts/buildings (domestic) – 2119
methods, non-chemical – 8377
nitrogen (liquid), application equipment – 4293
polymers particles/air jets – 6679
pyrolysis, ovens etc – 8377
salts (molten), chemistry/technology/costs – 6677

Paint Stripping *(continued)*
selective, individual layers – 6679
thermal, hangers etc, using cabins – 6680
ultrasonics/solvents – 9397P
Paint Systems
anticorrosives, various environments, recommendations – 5915
steel, surface condition/corrosion resistance & – 5899
Paintability
plastics
—mouldings, RIM – 1117P
—nitrating/heating/forming/cooling contact polar – 6430P
—substrates composition/reactive sites – 1113
Painters
artists, cancers etc – 2959
cancers, epidemiology, review – 9797
co-operatives
—for paints buying – 691
—paint manufacturers (German) – 697
data sheets (material safety), information in/advice – 2958
diisocyanates, & biuret-modified – 2048
epidemiology
— 4584
—Switzerland – 6189
lead poisoning – 2966
neuropathy (peripheral), testing – 7010
qualifications
—EEC countries (various) – 8852
—EEC directives/single European market – 7907
respiratory protection, views on wearing – 575
sensory thresholds, vibration/temperature difference – 7010
solvents
—neurotoxicity – 2111
—olfactory function impairment tests – 5377
—prenarcotic/neuraesthenic symptoms – 9796
—toluene/xylene, monitoring (biological) – 7761
trade associations, co-operatives, Germany – 6318
training – 4736
Painting
See also maintenance painting & repair painting
aircraft, reasons/techniques/examples – 9348
asbestos cement, weathered substrates – 8338
automation
— 3101
—cylinders interiors – 7466
automobiles
—dusts removal from painted – 1743P
—environment/quality, developments/time/Germany – 2629
—lines – 5088, 5089
—plants, investment – 3898
—spray booths legally required, cases – 3076
boats, several colours/vapour curing – 6641
bridges, specifications (USA) survey – 303
brushes for
—bristles materials/shapes etc – 4280
—cleaning, funnels – 9390P
—covers for ferrules, against handle fouling – 8363P
—selection/techniques – 7481
—statistics (UK)/exports/imports – 1340
—types/uses/care – 6648
—used, storage/cleaning sachets – 330P, 331P, 5127P
brushes/rollers, manufacturers (UK) – 6290
buildings, cellars – 301
cans, plants/automation – 7485
community service, USA, NPCA – 2211
contamination during, dusts electrostatic attraction – 2638
contract
—aluminium etc substrates, plants – 8344
—Canadian companies, comments/profiles – 8845
—chemical companies & – 1734
—colours, forecasts (US) – 492
—companies/plants (Canadian) – 8346
—directories (Canadian) – 8345
—electrocoating – 4271
—electrocoating (cathodic), plants – 5103
—plants (US) – 6656
—plastics – 1031
—powder coatings – 4276
—powder coatings, doing business with – 309
—powder coatings, role/costs – 309
—products/services for, directories (UK) – 10006
—regulations (US)/EPA & – 9984
—vehicles (motor) components, plants – 8347
contractors
—industrial structures, directories, US/Canadian – 6634
—offshore structures – 6634
conveyors (power-and-free) – 323
cylinders (gas), plants – 3431
decorative, sundries market UK – 9921
decorative effects, granite-like – 8368P
do-it-yourself, methods/advice/brushes cleaning – 2536
domestic appliances, plants (French) – 6660
emissions
—control – 8375P
—quantification/reduction – 4614
—regulations (Italian) – 7200
—regulations (US)/industry reaction – 7209
—solvents recovery, permeation membranes – 3782
equipment
— 7931
—cleaning – 9391P
—cleaning, drums/solvents tanks for – 7511P
—directories (French) – 5600
—directories (Italian) – 5607
—directories (UK) – 3432
—fluoropolymers coatings on, paints not adhere – 8365P
—manufacturers (Indian) – 1037
—paint stripping from – 4293
—power equipment guidelines – 7477
—power, rollers/spraying – 8333
—pumps, developments/materials – 1032
equipment (proprietary) – 3412, 7467
equipment/materials, directories (Canadian) – 4990
food industry, precautions/advice – 5988
furniture, plywood – 7468
good practice, book chapters – 743
handbooks, information manual – 7931
handbooks (German) – 3101
hazards
— 2054, 5352
—assessment, degreasing & – 3083
—vapours from hot substrates – 2944
inspection, equipment – 7498
lines, emissions mapping – 5392
masonry, specification/defects prevention/coatings selection etc – 9412

Painting *(continued)*
metallic effect, bronzing, materials – 5099
methods, equipment/techniques/advantages etc – 5876
mills (pulp) – 7482
mixing/dilution, advice to painters – 3448
office equipment, rinse water treatment/recycling – 9802
painters/inspectors training/certification – 4736
paintwork, certification, Italian schemes – 9357
plants
—design/use – 7499
—health & safety/environment/inspection – 4769
—planning – 3101
plastics
— 1735
—automation/spray cabins etc – 6653
—automobiles – 1114, 1115, 2632
—automobiles bumpers, plants – 6636
—automobiles, plants/just-in-time – 5086
—coatings types/plants – 1031
—furniture (garden), plants – 5877
—lines – 5862
—plants – 6295
—plastics types – 5867
—plastics types/coatings/adhesion & – 4400
—plastics types/coatings/application processes – 5195
—plastics types/coatings/future etc – 6793
—plastics types/uses/paints – 5972
—problems/pretreatment/materials/application – 4264
—stages/weather resistance etc – 5096
—substrates problems, inhomogeneities/junction lines – 6638
quality control
—film thickness/statistical process control – 6976
—standards – 5597
—statistical process control – 4544
railway stock, hopper cars, interiors, standards – 3090
robots
— 7502
—characteristics/advantages/programming – 9353
rollers
—attachments on handles – 9389P
—cleaning, insertion into jackets – 2647P
—market (UK), brushes etc & – 9921
—selection/techniques – 7481
—splatter shields – 8362P
—trays – 7504P
—trays, supports – 7507P
—valves controlling supply – 9372P
ships (naval) – 8343
ships' tanks, shipbuilding/inspectors' role – 9352
specifications, components of, comments – 5878
splashes etc, removal – 2651P
steel – 7493
steel (structural), standards relevant to – 4306
steel (zinc-coated) – 5928
substrates storage/weathering before – 1284
suspension units, water-bornes, epoxies, lines – 6632
techniques/materials/trading conditions changes – 6318
touch-up, by electrodeposition – 329P
vacuum, strips, chambers – 9388P
vehicles (motor)
—equipment – 6631
—materials/procedures – 6809
waste water, & treatment/recycling – 579
wastes, disposal/solidification – 7045
weather &, guidelines – 2633
wood
— 3101
—emissions – 2118
wood (weathered), unpainted/painted – 8421

Paintings
antique effect, methods creating – 332P
defects, sizes/strains/humidity – 7731
DSC, ageing/pigments/oils etc effects – 5326
encaustic technique, Rome – 935
old
—Central America, pigments/dyes – 7950
—pictograms, Mexico – 4988
—pictograms, Mexico, colourants – 5612
—pigments, Mexico – 5612
—Rome, pigments, types/composition etc – 754
—Rome, pigments/colourants – 754, 755
—Rome/Etruscan, materials/techniques – 935
transparent coatings – 4910
wall
—old, fungi, species/biodegradation abilities – 7579
—old, Mexico, pigments – 5612
—old, pigments/colourants – 754, 755
—old, pigments/dyes, Central America – 7950
—old, Romano-British, techniques/materials – 2516
—Rome/Etruscan – 935

Paints
analysis, methods, formulations/films – 1972
analysis (forensic), methods – 2852
binders, history – 9055
cans
—packaging design, labels – 5519
—pouring spouts attachable to – 7503P
certification, British Board of Agrement – 8951
chemistry, bonding types – 6535
components – 3101, 3334
containers
—examples/tinplate – 8748
—handles attachments for wire loops – 9374P
—plastics, stacking distortion resistance – 592P
definitions/terms – 3941
developments
— 2510, 5140
—resins – 4886
dictionaries, seven languages – 4805
directories (French) – 5600
directories (German) – 6366
directories (Italian) – 5607
directories (UK) – 3432, 10006
filtration – 298
forensic analysis
— 9689
—infrared (near)/microscopy – 9717
glossaries/translations/standards, French terms – 6337
hazards – 8953
history
—components & – 4147
—Rome/Etruscan, techniques/materials – 935
history/binders – 9192
infrared spectroscopy, emission (transient) – 6926
labelling, regulations (Australian) – 8847
liquid, colour matching – 8571
public relations, Germany – 1382
raw materials, proprietary products, books – 7219

Paints *(continued)*
removal, splashes etc in painting – 2651P
review – 4991
solid, polymers
blends/benzylidenesorbitols/solvents – 4153P
solvents, exposure/neuropathy, re-examination – 560
specifications (US), summaries collections – 1446
standards (German) – 6361, 6362, 6363
standards (Italian), lists – 9992
terms/definitions (German) – 6349
testing, standards – 5592
waste
—disposal, regulations (Italian) – 7194
—disposal/solidification – 7045
—materials extraction – 8745P
—reprocessing, lines – 7801
—solvents/metals recovery – 1369
Panels
See also board
aluminium, coatings, forming tolerance – 1143P
basecoat/clear simulation, flakes under transparent – 6818P
for testing, spreading rate (specified) – 7215
galvanised steel, coil coatings – 5214
metallic effect, coatings, epoxies etc – 6840P
roofs, powder coatings – 4199
wood
—flame retardants – 4388
—hardness determination – 4771, 4772
—water &, absorption/dimensions changes – 4773
Paper
adhesives (hot-melt), migration (thermally-triggered) – 6164
adhesives (water-borne) – 6586P
bonding, to polyesters (metallised) – 5039
conductive coatings, ammonium compounds – 4439P
extenders/pigments/fillers, statistics/forecasts etc, market studies (American) – 7837
filter, coatings – 6484P
interactions, with inks, modelling – 4559
light scattering, theory, Kubelka-Munk/Stokes links – 7633
manufacture, steel corrosion fatigue reduction – 4301
metallisation, direct/transfer, electron beam-curables & – 5437
mills for, coatings – 7533
photopolymerisables deposition on, crease resistance/acid ageing resistance – 3004
printability, smoothness parameters/reflectance – 3732
recycling, adhesives problems/adhesion reduction for – 2973
release coatings
— 9551P
—electron beam-curables – 5419
sizes, rosin/sizing agents/aluminium compounds – 1116P
synthetic, radiation-curables, polymers (water-soluble) – 6796P
treatment, with polyvinyl alcohol, coatings after – 9558P
Paper Board
adhesives (water-borne), starch/latices – 6590P
coatings
—dienes copolymers (carboxylated) – 8495P
—interpenetrating networks – 279P
—styrene/butadiene copolymers – 4401
pretreatment, corona discharge – 3440
Paper Coatings
acrylamide copolymers (substituted) – 1172P
acrylamide copolymers (substituted/carboxylated), of dienes – 7344P
acrylic/urethanes copolymers – 974P
acrylics, imaging layers over – 1016P
adhesion, diene copolymers (carboxylated) – 3559P
binders (cationic)/dispersants (cationic) – 3555
binders/waxes, properties/mechanisms – 6792
calcium carbonate
— 3124P, 5630P
—water retention – 2273P
calcium carbonate/sericite – 444P
cohesion, clays v carbonates – 6038
copolymers (carboxylated) etc – 4406P
dienes (conjugated) copolymers (carboxylated)
— 3561P, 9556P
—synthesis – 5982P
dienes copolymers (carboxylated)
— 1838P
—latices synthesis – 8495P
dienes polymers, blends – 2758P
dispersion lacquers – 8486
electron beam-curable, costs – 8754
electron beams, effects in finishing – 2997
emulsion polymers
— 4891P
—from seeds/absorbed monomers – 5672P
—Tg over fifty/particle size – 6799P
ESCA, review – 6070
flow, visualisation, X-rays radiography – 6042
foaming, viscosity importance – 2752
gloss, diene copolymers (carboxylated) – 7594P
insolubilisation
—ammonium zirconium carbonate – 4399
—glyoxal systems (blocked)/polymers – 9566P
—reactivity/mechanisms/potential problems – 4402
interpenetrating networks – 279P
kaolin, aggregation – 22P, 23P
kaolin (bulked), slurries (aq), dispersants & – 3973P
kaolin (structured), by chlorides – 7968P
labelling paper for food – 9560P
latices
—dienes (conjugated) copolymers – 4405P
—insolubilisation/wet strength – 4395
latices (core/shell), dienes copolymers – 8493P
maleics/carbon black – 1159P
manufacture
—deaeration – 2617
—dispersants/milling aids – 1575P
nitrocellulose etc, non-pigmented, treated substrates – 9558P
optical properties, Kubelka-Munk/anomalies – 9704
particulates (slightly-soluble)/zeolites/polymers – 777P
pigment dispersions, dispersants/colloids (protective cationised) – 8989P
pigmented binders then cationic polymers – 5210P
pigments, parameters/coatings properties/sedimentation volume – 9739
pigments (polymeric), synthesis – 6800P
polymers (carboxylated)/polyurethanes – 4188P
polyvinyl alcohol
—MW (high), permeability resistance etc – 9557P
—pigments blends – 9555P

Paper Coatings *(continued)*
printability
—additives, epichlorohydrin products – 3557P
—additives, epichlorohydrin/unsatd acids etc – 5203P
—chitosan/other components – 8491P
—diene copolymers (carboxylated)/acrylics – 5980P, 5981P
—dienes (conjugated) copolymers – 5208P
—dienes copolymers (carboxylated) – 3559P
—dot patterns, latices (core/shell) – 1839P
—latices (alkali-soluble/-insoluble) – 6794P
—printing (gravure), clays etc – 2755P
—printing (ink jet) – 5210P
—styrene/butadiene rubber – 4392
—undercoats/topcoats – 1838P
—urea resins particles – 1843P
printability etc, requirements/kaolin – 9545
proteins (carboxylated), soyabeans – 4393
release, from drums, agents in coatings – 9562P
rheology
— 3631
—coatings structure & – 3626
salicylic acid polymers/sulphonates – 1123P
sizes, rosin/sizing agents/aluminium compounds – 1116P
smoothness, reflection/smoothness/models – 2753
starch, properties/modification/storage etc – 4394
structure/properties, review – 8485
styrene/butadiene & casein, additives – 7595P
styrene/butadiene copolymers, matching requirements – 4401
talc, slurries, anti-foaming agents & – 1120P
thickeners (associative) – 5646
ultraviolet spectroscopy, binders & – 6080
ultraviolet-curable, energy sources/compsn effects – 5455
vinyl alcohol copolymers, epoxy groups/amines – 4926P
vinylidene chloride/dienes copolymers, ink gloss – 4404P
viscosity/hydrophilicity, thermo-reversibility – 8608P
water absorption, deliberate – 2788P
water resistance
—binders/chitosan/epoxy – 442P
—binders/modified vinyl alcohol copolymers – 5202P
—starch – 4396
—styrene/butadiene copolymers – 4397
Paraffin Wax
wood stains, wood erosion resistance – 5986
Paralysis
hypokalemic, barium carbonate – 2965
Pararosaniline
sulphonated, pigment pastes, alkyds/hydrocarbon resins etc & – 4232P
Parinari Oil
products, binders for inks – 3398
Parthenium spp
vegetable oils, leaves/seeds, analysis – 9002
Particle Board
coated, ageing, gloss/roughness – 5931
flame retardants – 4388
Particle Size
alkoxides products, reflection control – 9582P
analysis
—review – 7704
—suspensions preparation review – 536
calcium carbonate – 3125P
colloids, separation in capillary tubes – 8695
conference proceedings, papers – 3956
determination
—'projection', same particle repeatedly, shape – 5310
—aerodynamic diameter, density corrections – 7749
—aerodynamic, transit times, modelling/correction factors – 3707
—aerosols, light scattering, calibration with impactors – 3745
—centrifuges (disc) – 9728
—emulsions, profiles, ultrasonics – 2910
—equipment (proprietary) – 3737
—field flow fractionation (sedimentation)/photon correlation – 3752
—image analysis pixel problems – 3723
—in-line, lasers/back-scattering – 6962
—laser diffraction – 7735
—laser Doppler velocimetry – 3733
—latices, methods – 2904
—light scattering, light absorbancy/anomalous diffraction – 3728
—light scattering, multivalued region of functions – 8694
—methods/titanium dioxide, & crystal size – 8669
—microbeams crossing particle, scattering – 3706
—micrometre size, methods values comparison – 3721
—on-line – 7735
—optical/time-of-transition, refractive index – 8674
—photon correlation spectroscopy – 3748, 6897
—polymerisation reactors, on-line – 6138
—suspensions/equipment (proprietary) – 3706
—swelling increases, counters – 3718
—velocity simultaneous, Doppler velocimeters (modified) – 3720
emulsion polymers, large, synthesis – 4891P
emulsions, anemometry – 1242
fibres (milled), shape/flow/shear & – 3635
grinding, mills (ball) feed rates & – 292
latices, polystyrene, control – 7302
pigments
—colour &, films (polymer) – 2808
—optical properties & – 7957
pigments (org), printing inks (water-borne) & – 2929
pigments encapsulation – 1462
polymers
— 2921
—control, polymerisation & – 2355
—suspension polymerisation/control – 5671P
powder coatings, effects – 8235
reduction, insufficient/coatings problems – 8181
separation by, impactors (virtual) – 3743
sieving, data analysis, computers – 1256
silica, microspheres (porous) – 1458
titanium dioxide, opacity & – 6034
toners, suspension polymerisation – 8702
Particle Size Distribution
cumulative, plotting, reference distributions/graph paper choice errors – 3713
curve fitting, log-normal (three-parameter) – 3740
determination
—Andreasen pipettes – 6340
—chromatography (dynamic) – 1992
—colloids, optical methods – 5341
—counters (multichannel), high resolution – 3734

Particle Size Distribution *(continued)*
—counters, calibration by image analysis – 3731
—emulsions/light scattering – 4548
—fluorescence quenching – 5341
—images analysis/automation – 6144
—light scattering (zero angle depolarised) – 6127
—microbeams crossing particles, hiding – 3737
—optical/time-of-transition refractive index – 8674
—photon correlation spectroscopy – 3747, 3755
—photon correlation spectroscopy/light scattering – 3715
—photothermal radiometry – 5320
—porous materials – 3731
—turbidimetry, regularisation parameter – 6129
—ultracentrifuge, two concentrations – 1259
emulsion polymerisation/latices – 3181
latices, voids volume &, sedimentation – 4539
Particles
acrylics, graft copolymers (metal-containing) – 4939P
attrition, modelling/examples – 3415
classification
—by composition, computers – 2867
—by shape, sieving/vibrating sorters – 3759
—electron microscopy (scanning), computers – 2867
—impactors (virtual) – 3743
coated
—by fine, by mixing – 1721
—polymers cores/metal (compound) shells – 4369P
—surface area, particles (coated) – 1945
core/shell
—absorption/desorption by, kinetics – 3724
—acrylics, epoxy compsns – 1586P
—adhesives (water-borne) – 8278P
—basecoat/clear, microparticles – 6569P
—block copolymers, cross-linking/suspensions/shape – 8670
—carboxylated on fluoropolymers – 7335P
—cores (cross-linked/metal-containing)/grafts – 4084P
—ethylhexyl acrylate/vinyl acetate copolymers – 9064
—light scattering – 7737
—metallic finishes (water-borne), basecoats – 8517
—microgels – 966P, 968P
—microgels, electrocoating (cathodic) – 8204
—microgels, graft copolymers – 6151
—microparticles, stabilisation – 6568P
—shell reactive with epoxies – 2424P
—siloxanes on emulsion polymers – 1542P, 1543P
—swelling in acrylates, adhesives – 1696P
—urushiol polymers/polysaccharides – 2314
—vesicles in core via bases – 7251P, 7252P
counting, coincidence corrections – 3735
cross-linked, latices – 961P
diffusion
— 3748
—photon correlation spectroscopy – 3747
ellipsoidal
—from spherical, by stretching – 8069
—non-uniform charge, electrophoresis – 5314
fine
—chromic oxide, by pyrolysis (laser) – 6371
—encapsulation of particles by – 3119P
—micrometre, hydrodynamic behaviour/size – 3721
handling, attrition – 8322
handling (pneumatic), phase equilibria – 3421
hollow
—cementitious coatings, acrylics/epoxies & – 953P
—pigments (polymeric) – 4242P
—polymers, writing inks (water-borne) – 5070P
interactions, determination – 8677
ionomers, antifoulings – 9527P
packing (ordered), domain size – 2012
photon correlation spectroscopy – 3748
polymers
—adhesion to surfaces from aq – 7003
—basecoat/clear – 9491P
—benzoyl peroxide groups introduction – 6438
—coatings, pigments (inorg) & – 9319P
—drying – 3980P
—electroless deposition on – 8055
—encapsulation, impactors – 3173
—heat-curables, roughness/wear resistance – 8609P
—inks for ball-point pens – 2598P
—manufacture, polymerisation methods – 814
—particle size/thermodynamic characterisation – 2921
—printing pastes – 9296P, 9297P
—sols/silicones on – 1484P
polymers (carboxylated), water-bornes – 970P
polymers (cross-linked)
—antifoulants, hydrolysable bioactives – 3541P
—disintegration in water (sea) – 3543P
—ionomers, antifoulings – 3542P
—metal-containing, polyurethane coatings – 6016P
—porosity – 3736
polymers (sulphonated), water-bornes – 970P
porous, modification, iron oxide (magnetic) in pores – 8054
precipitators (electrostatic), theory – 5393
shape
—classification by sieving/vibrating sorters – 3759
—comminution &, brittle solids – 293
—drag coefficients – 6879
—fibres (milled), size/shear/flow & – 3635
—powder coatings/effects – 8235
—shape factors/elongation ratio/area ratio – 3742
—zinc oxide, by infrared/X-rays – 1193
spherical
—maleic anhydride copolymers – 4934P
—polymers, coatings – 5231P
—polymers, pigments &, inks (water-borne) – 2597P
swelling – 3718
systems containing, rheometry – 4466
velocity, determination, size simultaneous – 3720
X-ray analysis/electron microscopy/small-angle scattering – 6983
Particulate Materials
See also granules & powders
air pollution, levels, limit values, EEC – 6332
determination, in air, benzene-soluble components – 1434
emissions, sampling in stacks – 1430
FTIR/microscopy, particles/clusters – 6928
metals (heavy) in, extraction/analysis – 3675
sampling
— 7673
—effectiveness/statistical modelling – 7789
Partition Coefficient
chemicals (org), tissues/water/blood/air – 7771

Passivation
formation, ESCA etc/electrochemical measurements – 7667
mechanisms/electrochemical stability – 9463
oxides films, from diketones/alkoxides etc – 5129P
rebars, time to loss – 5157
steel (chromium)
—Cr/Mo enrichment – 7474
—growth kinetics/film thickness – 7475
Pastes
carbon black, manufacture – 1489P
Patents
Chinese
—patents documentation service systems – 7910
—procedures etc – 7909
European
—analysis, status/pending/abandoning etc, on-line – 3921
—databases, on-line searching – 3921
journals (Japanese) relevant to – 2218
US
—infringement, retailers liability – 5589
—infringement/US courts – 5589
Patina
scialbatura, nature/origins – 5574
Pavements
raised marker installations, adhesives – 2235
Pearl Paints
management buy-outs – 4721
Pearls
imitation, coatings analysis – 9692
Peel Strength
acrylics, on glass, surfactants types effects – 8607
book chapters, testing/factors/review – 8600
coatings, adhesion determination – 7642
determination
—adhesion/deformation effects – 7638
—adhesives for wood/plastics – 1439
—adhesives, symmetrical double peel tests – 4464
Peeling
pressure-sensitive adhesives, theory/force/rates – 3622
tests
—analysis via energy conservation – 6867
—interpretation – 6869
Peening
intensity of, determination – 9360
methods/media/control/uses – 9360
Pencils
See also crayons
metals (soluble), testing/limits – 3944
writing (invisible) – 1711P
Penetration
resistance, pipeline coatings – 8870
Pens
See also ball-point, felt-tip, fibre-tip & fountain pens
decorative coatings, silica etc – 1167P
Pentachlorophenol
application, plants/hazards/guidance – 415
biodegradation, by fungi – 5948
effluents, regulations (UK) – 9976
glycidyl ethers – 3548
replacement
— 4354
—testing – 2731
uses/properties/toxicology/impurities – 2113
wastes, treatment, fungi (immobilised) – 8729
wood (treated), storage/fungal colonisation – 2727
wood preservatives, replacement/retention UK – 4355
Pentachlorophenyl Laurate
fungicides, remedial treatment, solvents/emulsions – 2723
Pentadecylphenols
acrylates, synthesis/polymers/adhesives – 4057
Pentadiene
copolymerisation, ethylbenzene hydroperoxide – 5683
hydrocarbon resins, synthesis – 97P
treatment with, kaolin, then polymerisation – 4845P
Pentaerythritol
acrylates
—acrylic/urethanes from – 629P
—diols, synthesis, mono-ol/triol free – 9018P
diesters, synthesis, mono-ol/triol free – 9018P
esterification
—acrylic acid self adducts – 8114P
—kinetics/modelling – 3220
phosphates (bicyclic), intumescent compsns – 8482P
products, acrylic/urethanes – 8811P
reaction, with rosin (maleinised) – 1521
synthesis, plants, Poland – 6249
transacetalisation, of diethoxyethylphosphonates – 3309
Pentaerythritol Tetramethacrylate
synthesis/characterisation – 7998
Pentane
anhydrides from, synthesis – 7257
Pentaplast
See polybis(chloromethyl)oxetane
Penton
See polybis(chloromethyl)oxetane
Percarbonates
unsaturated
—copolymers, graft copolymers precursors – 4896P
—graft copolymers synthesis – 7299P
Perchlorates
antistatic coatings, acrylics & – 9626P
electrodes (copper) & – 4318
Peresters
initiators, decomposition rates prediction – 1540
initiators (polyfunctional), styrene/kinetics & – 4899
photoinitiators
—carbonyl (unsatd) & – 6233P
—dyes & – 627P
photoresists – 1321P
Perfumes
See also fragrance
emulsion paints (interior) – 4181P
inclusion compounds, stoving odours masking – 4193P
microcapsules, transfer materials (thermal) – 9315P
Perlite
fire-resistant coatings, water-glass & – 6788P
multilayered coatings – 1756P
thermal insulation, condensation control – 3591P
Permeability
anticorrosives
— 6714
—reduction – 6695
coatings, for wood – 5318
corrosion-stimulating species – 8576

Permeability *(continued)*
esters, in polymers (chlorinated) – 8700
filter cakes, flocculation/residence time effects – 2615
gases, reduction, sugars – 9593P
gels, dispersions coagulation & – 7744
moisture
—coatings/joints – 9400
—high, emulsion polymerisation for – 8445P
oxygen
—films (polymer), humid conditions – 6993
—pigments (flake) – 4547
—vinyl alcohol copolymers, heating effects – 8704
paper coatings, reduction – 9557P
solvents, polymers blends, morphology effects – 8701
vinyl chloride copolymers, plasticisers & – 5137
water
—determination, coatings on wood – 9755
—low, anticorrosives (radiation-curable) – 3019P
—low, electrical insulation – 6772P
—networks, acrylates/linking blocks/hydratable units – 6480P
water vapour
—adhesives (water-borne) – 5822P
—anticorrosives (water-borne) – 6708
—barrier coatings, acrylics/terpene resins – 7391P
—coatings against – 2789P
—determination – 6344
—determination, coatings on wood – 9755
—micropores/other systems – 6124
—polyurethanes etc – 1851
—selectivity, glycol ethers polymers – 5704
Permeation
carbon dioxide, polymers blends – 6121
clothing (protective), testing – 2964
factors/polymers – 2028
methane, polymers blends – 6121
salts, epoxy/polyamides films – 6972
Permethrin
wood preservatives
— 4354
—termites/marine borers – 2730
Permittivity
See electrical permittivity & dielectric entries
Perovskite
titanium dioxide from – 7229
Peroxide Groups
pendent
—polymers, precursors for graft copolymers – 4027P
—urethane links, polymers with – 4893P
Peroxides
amino groups, initiators – 8050
azo groups, initiators – 8050
biocides – 1450
formation, metal substrates/oxygen reduction – 394
groups
—amines (hindered), stabilisers (bound) – 794
—corona discharge – 3442
—generation, phosphazenes surfaces – 3314
initiators, review – 2343
polyfunctional, initiators, polymerisation/MW, theory – 9058
unsaturated, from isocyanates/hydroperoxides – 4893P
Persulphates
determination, in water, spectrometry – 1228
initiators, interactions with emulsifiers – 7308
Perylene Pigments
types/composition/properties/uses – 8965
Perylenetetracarboxylic Acid Diimide Pigments
precursors synthesis – 4859P
287979 Naphthalenetetracarboxylic Acid Diimide Pigments – 7979P
Perylenetetracarboxylic Acid Diimides
pigment compsns – 7979P
Pesticides
approved, lists (UK) – 4799
exposure, control, codes of practice (draft) – 1394
labelling, regulations (Australian) – 8847
registration, USA – 8865
regulations (French) – 7917
toxicology, testing for registration – 5348
Petrochemical Industry
paint defects, case histories/guidelines – 5918
Petrochemicals
plants, anticorrosives, types – 7541
wastes, tar acids, pigment pastes – 7800
Petrol
See also tanks (fuel) & tanks (petrol)
modified, effects on tanks linings – 7547
resistance to
—alkyds – 128P
—coatings – 471P, 472P
—coatings for plastics – 9554P
—coatings, acrylics/epoxy compounds etc – 4410P
—coatings, acrylics/isocyanates (blocked) – 1861P
—epoxies/vinylidene chloride polymers – 155P
—high-solids coatings, acrylics – 1576P
Petrolatum
See also oils (mineral), petroleum jelly & waxes
tapes, offshore structures – 9407
Petroleum Fractions
flash point, modification by chlorofluorocarbons – 1496P
oxidised, oxynaphthenates as pigments – 2
polymerisation, with terpenes – 9073P
Petroleum Gas
liquefied
—storage, guidance – 7025
—vessels (storage), fire resistance/insulation role – 4385, 6781
Petroleum Industry
plants, anticorrosives, types – 7541
Petroleum Products
corrosion by, copper, detection – 8878
zinc/silicate paints effects on – 4328
Petroleum Resins
hydrogenated, tackifiers – 9269P
primers, terpenes resins/copolymers & – 7615P
synthesis
—from aromatics/formaldehyde – 1552P
—less colour, methylindenes lower – 1554P
types/synthesis – 95
water-bornes, butyl rubber & – 951P
Petroleum Sulphonates
anticorrosives, asphalts/fillers etc & – 4346P
coatings, asphalts etc & – 1800P
printing inks (water-borne) – 1703P
Petropar Group
vinyl chloride, monomer/polymers, plants (planned) – 7877
PH
See acidity, alkalinity, & hydrogen ion concentration

Phase Diagrams
dispersions, associating polymers &, theory – 6156
vinyl acetate, water/surfactants/co-surfactants – 6957
Phase Equilibria
coatings – 1248
polymers, solutions (aq), & models – 8692
solutions, polymers/group contribution – 1248
Phase Separation
acrylics, copolymers (statistical) – 8060
block copolymers, surfaces/bulk – 891
block copolymers/homopolymers, one block surface enrichment – 891
coacervation, mechanisms/flocculation & – 7745
dispersions, associating polymers/theory – 6156
epoxies (cured) – 3652
epoxies/polyether-sulphones, in curing – 7319
epoxies/siloxanes, evaporation rate & – 9693
interconnected phases, acrylics blends – 8676
interpenetrating networks
— 77
—mechanisms – 2358
—morphology/studies/mechanisms, review – 2317
—viscoelasticity & – 497
latices, polystyrene seeds/styrene – 7290
microphase
—polyphenylene oxide/siloxanes – 9738
—solutions, block copolymers – 5675
oligoesters, water/isopropanol & – 7385
phenylenediacrylic acids esters/arachidonic acid – 2995
polyester-urethanes, microdomains – 1226
polyethers/dextran/water – 2018
polymers systems, light scattering – 1999
polyurethanes (segmented) – 5747
transient, microemulsions, electrical fields – 8703
water-bornes, film formation/emulsifiers islets – 4535
Phase Transitions
See also (possibly under) transitions
Phenol
liquid chromatography, band profiles, theory/experiments – 4494
toxicology – 3235
water pollutants, treatment – 8732
Phenol-Formaldehyde Condensates
cyclic, synthesis/MS/NMR – 6400
Phenol-Formaldehyde Resins
ethers, propargyl groups – 6445
substituted, NMR (carbon-13, solid-state) – 9716
wood dusts with, respiratory systems – 1274
Phenol/Amine-Formaldehyde Resins
chelating agents, for metal substrate – 1072P
Phenol/Melamine-Formaldehyde Resins
– 3280
Phenol/Resorcinol-Formaldehyde Resins
mechanical properties – 4475
Phenol/Urea-Formaldehyde
products, with melamine resins – 1624P
Phenolic Resins
See also epoxy/phenolic resins
adhesives
—modifiers content determination – 1402
—non-volatiles determination – 1403
—starch (amylaceous) detection – 1400
anticorrosives, acid resistance – 1053
benzylic ether type, curing accelerators for – 868P
blends, with melamine resins, water-bornes – 2535
cross-linking
— 4013
—formaldehyde emissions determination – 2861
emulsions (oil-in-water), manufacture – 3275P
from phenols from phenols synthesis wastes – 2979P
from siloxanes from cardanol/allylphenols – 5765
gel times, wood activation effects on – 5871
litigation (Indian), & arguments – 5530
modified
—by terpenes, sealers – 3411P
—printing inks – 9309P
—terminal trimellitic anhydride esters – 896P
NMR, imaging – 4510
photoresists
—acrylates & – 634P
—siloxanes/diazoquinones & – 7821P
photosensitives, diazoquinones/dyes/acid generators – 8774P
products
—with polyvinyl acetal, adhesives/primers – 1155P, 1156P
—with polyvinyl acetal, coatings from coupling agents & – 1870P
reaction
—with heterocyclics – 6505P
—with oxazolines, catalysts – 2469P
resists, diazoquinones & – 5483P
silicone-modified, epoxies & – 1593P
synthesis
—for epoxy/phenolics, catalysts – 5251P
—plants construction, Poland – 6249
synthesis/raw materials/toxicology/characterisation, review – 3235
unsaturated, from dialdehydes etc, vinylbenzyl groups – 7321P
volatiles, before/after curing – 3473
Phenolphthalein
polyesters (unsatd), from bisphenols (halogenated) & – 8082
Phenols
See also isopropenylphenols
acid/base equilibria, micelles & solvents/water – 6128
adhesives (cyanoacrylate), polyols & – 9285P
adsorption, on carbon from phenolics/olive stones – 2035
allyl ethers, synthesis – 3241
benzotriazole groups
—acrylates, stabilisers – 2308P
—polyfunctional, spectroscopy – 6956
—silyl groups – 5653P
—spectroscopy – 6955
—stabilisers (light, bound) – 3157P, 4827P
—ultraviolet absorbers (bound) – 3115P, 3967P
—ultraviolet absorbers/synthesis etc – 8010P
—unsatd, synthesis/polymers – 56
calixarenes – 6400
chlorinated
—antifoulings – 8464P
—wood preservatives, detection – 8908
coatings, for polyacetals, adhesion – 8489P
coupling (oxidative), polyethers/by-products – 6455
cyclopentenyl groups, polymers, tackifiers – 6593P
electropolymerisation
— 4006
—coating by, cross-linking – 375
—on zinc/galvanised – 4883
emissions, regulations (UK) – 4760

Phenols *(continued)*
fluorinated, perfluoroalkenyloxy groups – 3321P
from phenols synthesis wastes – 2979P
halogenated
—curing agents for epoxies – 8103P
—epoxies & – 3253P
—glycidyl ethers – 3548
hindered
—acetylene groups, polymers/oxidised polymers – 1561
—stabilisers, printing pastes – 9294P
HPLC (reverse phase) – 6892
liquid chromatography – 2880
polyfunctional, products with amines/epoxies – 227P
products, with hydroxy/epoxy compounds (substituted) – 858P
reaction
—with oxazolines, copolymers, catalysts – 2469P
—with tung oil – 9001, 9005
stabilisers
—for moisture-curables – 1653P
—for trichloroethane – 1502P
synthesis
—plants plans, Japan – 9963
—wastes from, use – 2979P
treatment with, fillers – 3264P
water pollutants, removal – 7050
Phenones
hydroxyalkyl, photoinitiators, water-soluble/hydrophilicity – 4867
hydroxylated, photoinitiators, benzoin & – 7116P
morpholine groups, blends thioxanthones – 9830
photoinitiators (chemically-bound) – 8759
substituted, photoinitiators (bound) – 9834
Phenothiazine
derivatives, photocurables – 6217P, 6218P, 6219P
inhibitors, polyesters (unsatd) & – 8104P
polymerisation presence, & maleics – 107
propargyl groups, polymers/photoconductivity – 9171
Phenyl Methacrylate
substituted, polymerisation, steric effects – 4922
Phenyl Styryl Ketone
groups
—photo-crosslinking efficiency, models – 5408
—photo-crosslinking, kinetics – 5282
substituted, dimerisation, polyamides from, photochemistry – 2129
Phenylenediacrylic Acids
esters, monolayers/multilayers – 2995
Phenylenediamines
antioxidants, ultraviolet radiation effects – 8019
determination, in air, sampling/analysis – 1946
inhibitors, against acrylates polymerisation – 4064P
substituted
—curing agents for epoxies, properties – 2408
—inhibitors against polymerisation – 1539
Phosphate Coatings
coating weight, X-ray fluorescence – 6923
composition, hopeite/phosphophyllite – 3444
composition/morphology/microstructures – 4477
electrochemical measurements, non-stationary methods – 3480
for copper – 5890P
for polyurethanes – 5209P
formation, air-drying coatings/manganese phosphate with – 7536
inorganic
—oxides/silicates/aluminates & – 8481
—porosity – 477P
siloxanes (ladder) & – 1655P
surface free energy – 5322
thermal stability – 1033
wear resistance, fatty compounds/carboxymethylcellulose – 9373P
Phosphates
acidic, groups, polymers, adsorption/pigments dispersibility – 2927
anticorrosive pigments, treatment – 1477P
anticorrosives, oxides (mixed) & – 5937P
bicyclic
—intumescent coatings, char formers – 5969P
—intumescent compsns – 8482P
chlorinated, intumescent coatings – 1108
corrosion inhibitors, vanadates & – 378
cyclic, polymerisation (cationic) – 2401
determination, spectrometry/ion pair complexes – 8645
dispersants, diphosphates/wetting agents/hydroxides – 3150P
epoxies with groups of
— 9227P, 9485P
—curing agents – 4066P
—polymerisation presence – 1082P
—synthesis – 4198P
groups
—pendent, acrylics, dispersions (aq) – 9222P
—phosphites – 8021P
—quinacridone pigments – 1470P
groups (pendent), vinyl chloride copolymers – 4951P
ion-exchange materials – 6758P
modified, anticorrosive primers – 3459
monobasic, anticorrosive pigments, carbonates & – 8984P
of acetylene derivatives, resists/insulation – 2985
of epoxies
— 8102P
—etherified – 5722P
—reactivity/flexibility – 8510
organic
—purification after synthesis – 67P
—synthesis, esterification (direct) – 66P
pigments, review – 4812
plasticisers, blends with others, coatings – 1719P
powder coatings, polyesters etc & – 5800P
recording materials (magnetic) – 1713P, 1714P
titanates, conductive coatings – 9616P
unsaturated
—acrylic/urethanes from – 1317P
—copolymerisation presence polymers – 232P
—copolymerisation, reactivity ratios/Tgs – 190
—copolymers, dispersants (polymeric) – 3152P
—copolymers, silyl groups, moisture-curables – 9550P
—from polyols (alkoxylated) – 4976P
—glycidyl copolymers, powder coatings – 5798P
—heat-curables – 2166P
—polymerisation presence pigments, encapsulation – 2266P
—radiation-curables – 628P, 2166P
—surfactants – 805P
—ultraviolet-curables, abrasion resistance – 3849P
water-bornes, dichromates/aluminium (dissolved)/polyethers etc – 4329P

Phosphatides
inks, recording (heat transfer) – 2596P
polymerisable, zwitterions – 201P
Phosphating
See also plaforisation in addition to 'phosphating, organic' below
aluminium – 1040
automobiles, dip processes – 2630
baths
—hard water/buffering agents/pH – 4266
—pH/control – 5873
before electrocoating (cathodic) – 2640P
combination
—with degreasing – 3436, 5084, 5121
—with degreasing, equipment/automation – 1736
electrocoating (cathodic) &, effluents treatment – 4619
iron/zinc systems – 5108
low-temperature
—for forming/temporary protection – 9341
—spraying – 9342
methods, dip v spraying – 2630
phosphate ions/active ions/metal ions/oxidants – 336P
phosphates/polyphosphates/chelating agents – 8357P
process/advantages etc – 5885
replacement, silanes/polymers/chromium(VI) – 5125P
rinsing, tanks water replenishment – 3430
steel – 7493
steel (zinc-coated)
—coupling agents treatment after – 2645P
—improved substrates – 5174P
—Zn/Ni alloys, adhesion (wet) – 4269
temperature (low) – 336P
treatment after, copper oxide/phosphorus compounds – 5892P
treatment before, sulphonates – 1044P
zinc alloys, vehicles (motor)/baths/processes etc – 1039
zinc phosphate
— 3453P, 5108
—activation before – 2640P
—automation, electrocoating &, lines – 4271
—calcium ions/morphology/corrosion resistance – 5861
—developments/vehicles (motor) – 5869
—heavy, corrosion inhibitors absorption – 5112
—hopeite/phosphophyllite – 3444
—hopeite/phosphophyllite, chemistry, electrocoating/stoving/use – 2686
—hopeite/phosphophyllite/composition/properties etc – 9344
—low zinc, before electrocoating (cathodic) – 9343
—lower temp – 334P
—metal ions/polyphosphates/chelating agents – 8357P
—metals particles, ESR etc – 6942
—modified, by polyacrylic acid – 322
—modifying ions, mechanisms/performance – 313
—monitoring, baths etc analysis, automation – 9340
—nickel ions, & conditioning – 4284P
—parameters/electrochemical measurements – 321
—process/advantages – 5885
—room temp/measurements – 6658
—steel (zinc-coated), adhesion (wet) – 4282
—steel (zinc-coated)/electrocoating (cathodic) – 3454P
—surface free energy obtained – 5322
—temp (ambient) processes – 4272
—temp (low), thirty-sixty deg C – 2648P
—titanium phosphate activators synthesis – 8360P
—treatment before/defects avoidance – 339P
—zinc/nickel/aluminium/magnesium etc ions – 337P
Phosphating, Organic
See also plaforisation
phosphates/chromates/aluminium/polyethers – 4329P
tannins, chelating/mechanisms – 5091
Phosphazenes
carboxylated, synthesis/hydrogels – 4117
coatings, over resists – 9621P
cyclic
—fluorinated, isopropenylphenyl groups, copolymers – 1106
—halogenated, unsatd, polymerisation/thermal stability – 7359
reaction, with sulphur trioxide – 4123
self-crosslinkable, cross-linking (reversible) – 3317
substituted, polymerisable radicals, transcription agents – 5843P
sulphonated
—synthesis – 4123
—water-soluble, synthesis/NMR/infrared – 9133
surfaces, ultraviolet effects/functionalisation – 3314
synthesis/transition metal derivatives/uses etc, review – 3308
unsaturated
—acrylates groups (pendent) – 7364P
—coatings – 4432P
Phosphides
particles, galvanised steel containing – 6754P
Phosphinates
coatings, over chromate, Cr(VI)/Cr(III) conversion – 6004P
groups, acrylates – 1640P
of epoxies – 859P
polymeric, main chain metals, ligands, & uses – 3328P
Phosphine Oxides
amino groups
—epoxy/amine adducts, flame retardance – 9541
—polymers containing main chain – 5965
benzoyl groups, photoinitiators, iodonium & – 5456
photoinitiators
— 1287
—benzoyl groups & – 3793
—efficiency/amines/FTIR – 2984
—products/amines role – 1286
polyamic acids synthesis presence – 1631P
Phosphines
catalysts, oxazolines/phenols reaction – 2469P
charging (triboelectric) enhancement – 4243P
polyamic acids synthesis presence – 1631P
powder coatings
—epoxies & – 8242P
—zinc oxide &, synergism – 5799P
primers, for plastics, before adhesives – 1126P
Phosphinic Acids
NMR (solid-state), carbon-13/phosphorus-31 – 9687
Phosphiniminium Compounds
curing accelerators, for epoxies – 149P

Phosphites
acidic, products with titanates – 4080P
antioxidants, coatings, pipes/loss control – 7619P
coatings, for polyurethanes – 5209P
epoxy & – 4080P
inhibitors, against aluminium pigments/water – 6390P
products
—with acrylates – 436
—with oligoesters (unsatd) – 436
spiro, of pentaerythritol/phenols, hydrolysis – 9024
titanates, conductive coatings – 9616P
transesterification, alcohols (phosphorus-containing) – 8021P
Phosphogypsum
treated, fillers (white) – 7974P
water-bornes – 5022P
Phospholipids
See phosphatides
Phosphomolybdates
anticorrosive pigments, treatment – 1477P
anticorrosives, for steel (zinc-coated) – 3495P
Phosphomolybdic Acids
initiators, ethers (cyclic)/acetals (cyclic) & – 9075
Phosphonates
chlorinated, flame retardants – 3549
coatings, over chromate, Cr(VI)/Cr(III) conversion – 6004P
corrosion inhibitors, cathodic protection & – 4298
crystals, layered, & polymerisation in – 8756
dioxolane/dioxane rings, acrylates from – 3309
groups
—phosphites – 8021P
—polyamides, fire etc resistance – 1836P
photoinitiators – 1287
unsaturated
—mono-esters, radiation-curables, adhesion – 5484P
—polyether polyols chains – 4975P
—polymers, hydrolysis – 8154
Phosphonic Acids
amino groups
—adhesion promoters – 2777P
—pretreatment – 2642P
conductive coatings – 6006P
corrosion inhibitors
— 8439P
—zinc salts/polymers (sulphonated) & – 5166P
difunctional, conductive coatings, pigments protection – 4438P
NMR, hydrogen bonding – 2860
NMR (solid-state), carbon-13/phosphorus-31 – 9687
polymerisation presence – 1575P
unsaturated, products with oxazolines/phenolics – 1615P
Phosphonites
wear resistance – 1134
Phosphonium Compounds
catalysts
—epoxies advancement – 6463P
—epoxies advancement presence – 7330P
flame retardants, melamine/nitrogen-containing etc & – 1832P, 1833P
isotachophoresis/MS – 4527
products
—polymers, flame-retardant coatings – 6786P
—with nitrogen-containing/heteroatom compounds – 3552P
—with urea – 4391P
Phosphonium Groups
electrocoating (cathodic) – 246P
polymers, photosensitisers groups & – 9840
Phosphorescence
book chapters – 1447
polymers systems, spectroscopy – 1912
Phosphorescent Materials
coatings, over water-bornes, lamps – 5790P
resists, X-rays – 6215P
Phosphoric Acid
pretreatment, of plastics – 6663P
products
—with amines/alkanolamines, corrosion inhibitors – 2712P
—with rust, & reduction potential – 6689
synthesis, plants, corrosion/control – 5135
Phosphorothioates
insecticides, coatings, effectiveness – 6808
Phosphorous Acid
products, bituminous compsns – 3330P
Phosphorus
red
—adhesives (flame-retardant) – 9271P
—flame retardants, techniques/handling/encapsulation – 6784
Phosphorus Compounds
inhibitors, against discolouration – 4881P
polymers, flame-retardant coatings, silanes & – 4391P
products, with nitrocellulose – 5192P
Phosphotungstates
adhesives (water-borne), epoxies & – 5055P
Phosphotungstic Acids
dyes insolubilisation by – 26P
initiators, ethers (cyclic)/acetals (cyclic) & – 9075
Phosphovanadic Acids
dyes insolubilisation by – 26P
Photo-crosslinking
acrylates, in matrices, kinetics – 3003
acrylics, anthracene groups – 3801
book chapters, review – 4639
cross-linking agents (water-soluble) – 7822P
dicyclopentadiene copolymers – 5688P
DSC, irradiation via fibres – 6157
efficiency, cycloaddition, statistical models – 5408
episulphides, thiobenzoquinones/light (visible) – 2132
epoxies, spectroscopy (photoacoustic) – 5281
ethylene/propylene copolymers
— 8760
—mechanisms/model compounds – 9845
—modelling – 6212
ethylidenenorbornenes copolymers – 5688P
glycidyl copolymers, onium & – 5413
isocyanurates (unsatd)/polyesters (carboxylated) – 1293
ketones (unsatd) groups, monitoring – 5282
polyethylene – 9845
polymers (unsatd)/azo (bound) – 7075
polyolefins, mechanisms – 1296
polyvinyl alcohol/styrylpyridinium groups – 2986
review – 3806
siloxanes (unsatd), cinnamates/cinnamylideneacetates groups – 5420
styrene polymers (fluorinated) – 8806P
Photo-oxidation
alcohols, on titanium dioxide – 1464

Photo-oxidation *(continued)*
carbon monoxide/ethane, titanium dioxide & – 1459
distyrylpyrazines polymers – 2990
electron beam-curables, acrylates (polyfunctional) – 5399
mechanisms – 4011
mechanisms/stabilisers – 7276
phosphazenes, surfaces – 3314
polyester-urethanes, rigid blocks concentration – 6496
polyesters (unsatd) – 4916
polymers, stages – 4313
polystyrene – 5687
polyurethane coatings – 5156, 9457
polyvinyl chloride
—mechanisms – 9129
—plasma, properties after – 6655
resistance, coatings – 7610P
stabilisers (light), amines (hindered) – 6411
toluene, presence nitrogen oxides, products/mutagenicity – 3783
Photoacoustic Spectroscopy
See infrared spectroscopy, 'infrared spectroscopy, Fourier transform', spectroscopy (photoacoustic) & Raman spectroscopy
Photoactivity
dyes/pigments – 4299
titanium dioxide
— 2658, 6369
—determination/mechanisms, isopropanol substrates – 2253
—glycol ethers & – 6377
—surfaces modification – 1459
—testing, isopropanol/paints methods – 2254
titanium dioxide (coated) – 3111
Photochemistry
alcohols, enols (transient)/trapping – 9846
anthracene groups, polymers, dimerisation/cross-linking – 3801
azo compounds (asymmetric) – 7075
azo sulphonates groups (pendent) – 9841
benzophenones
— 2128
—in acrylics films – 2253
cinnamates isomerisation, photosensitisers (polymeric)/onium groups – 9840
coatings, photoinitiation rates, unweathered/weathered – 411
cobalt complexes, solvents effects – 2305
dissociation energies/absorption maxima etc – 4011
distyrylpyrazines polymers – 2990
DSC, irradiation via fibres – 6157
eosin – 9838
fumarates copolymers multilayers systems – 2026
heterocyclics, book chapters – 10004
iodonium salts, mechanisms – 2988
ketones, enols (transient)/trapping – 9846
norbornadiene groups (pendent), isomerisation – 4737
photocatalysts, for organics in water, review – 9011
photoinitiators (water-soluble), benzophenones – 593
photoinitiators blends – 9830
polyamides, cinnamates dimers units – 3286
polymers
—books/reviews, photophysics & – 5608
—dyes/singlet oxygen generation – 838
—photophysics &, books – 1447
polymers (inorg), from alkoxides – 3817
polyurethanes, & model compounds/mechanisms – 887
reproduction techniques & – 4636
silanes/oxygen precursors, deposition – 3008P
solid-state, review, aspects/uses – 3816
solubilisation, sulphonated oximes groups – 3812
stilbene (substituted), isomerisation, microemulsions – 5323
toluenesulphonates, nitrobenzyl groups – 597
ultraviolet absorbers, benzylidenemalonates – 2300
vanadium complexes/hydrogen peroxide – 2281
Photochromic Coatings
– 8575P
diisocyanates products/hydroxylics/urethane prepolymers – 1876P
monolayers laminates, polymerised – 3451P
Photochromic Compounds
marking compsns, invisible/visible – 2606P
spiro compounds, naphthoxazines – 4880P
thiophenes, isopropylidenesuccinic derivatives groups – 8299P
Photochromicity
acrylic compsns – 4650P
automobiles coatings – 9637P
book chapters – 5608
compounds, polymers &, particles (fine) – 9062P
epoxies/photochromic/siloxanes layers – 6614P
polymers, from photochromic monomers/hydrogen bond-containing etc – 1519P
polymers (water-soluble), spiro comonomers – 7300P
reversible, dyes/carboxylic acids/triazines – 5240P
spiro compounds
—coatings, anti-reflection layers etc & – 9632P
—in films (polymer) – 2303
Photoconductivity
anthranthrones, charge generation – 5610
propargyl heterocyclics polymers – 9171
siloxanes, carbazoles groups (pendent) – 4120
titanium dioxide (reduced) – 5615
Photoconductors
polymers – 4887
Photocurable Coatings
acrylates, of bisphenols/dicycloalkanes (alkoxylated) – 9896P
acrylates (lactone-modified)/ammonium (unsatd) copolymers – 636P
acrylates (polyfunctional), etc – 473P
acrylic/urethanes
—acrylates (polyfunctional)/properties – 6214
—from polytetramethylene glycols – 7108P
adhesion promoters, hydantoins – 630P
cyclohexenedicarboxylic acids (modified) – 4648P
epoxy esters (unsatd), aluminosilicates & – 2150P
epoxy/amine adducts – 1327P
epoxy/urethanes (unsatd) – 613P
ethylene/propylene copolymers – 8760
for plastics, acrylics/acrylates (polyfunctional) – 9880P
for printing (screen) screens – 7813P
for wood, acrylic/urethanes from rosin – 4647P
hydroxystyrene polymers/isocyanatoethyl methacrylates – 5472P
isoxazolidine derivative oligomer compsns – 176P
keyboards keys manufacture, metals deposition & – 9874P

Photocurable Coatings *(continued)*
optical equipment, acrylates (polyfunctional) – 7081P
optical fibres
—acrylic/urethanes – 9881P
—acrylic/urethanes & hydantoins – 631P
—ethylhexanediols acrylates – 3847P
photoinitiators
—lasers-sensitives from – 4646P
—phosphine oxides – 1287
photoinitiators (new) – 9829
polyester acrylates – 1318P
polyimides/azides (org) – 9851P
siloxanes (unsatd)/siloxanes (mercapto)/silanes – 5485P
styrene copolymers/silyl groups – 3013P
wrinkling/cracking, deliberate – 8775P
Photocurable Compositions
acrylamide (substituted)
—amines odours avoidance – 7082P
—benzyloxymethyl – 3852P
acrylates, of phenolic compounds – 8808P
acrylic/melamines, catalysts (latent) – 6447
acrylic/urethanes
—from bisphenols (extended) – 8770P
—from pentaerythritol etc – 8811P
acrylics, ammonium salts – 5459P
acrylics/essential components/diluents (reactive) – 603P
acrylics/monomers, initiators-free – 5481P
anti-misting coatings, graft copolymers/acrylates etc – 1312P
azides
—aldehydes products with indene/fluorenes – 615P
—isophthalaldehyde/azidoacetophenones products – 9879P
benzene/diphenylmethane derivatives for strength – 5473P
bismaleimides/polymerisables – 8788P
conductivity (electrical), printed circuits – 5489P
diene polymers/polyolefins/unsatd – 3020P
epoxies
—anthraquinone (substituted) – 7086P, 7087P, 7088P, 7089P
—blends/ester groups – 4662P
—silanes/fluorophenyl/nitrobenzyl & – 9888P
epoxies (modified)/acrylates (modified) – 7096P
epoxy compounds (unsatd) – 3854P
epoxy compounds/active hydrogen etc, low viscosity – 3273P
epoxy/acrylates, diluents (reactive) effects – 9839
fragrance, cyclodextrins/perfumes – 9873P
holography, photoinitiators – 7090P
iodonium salts (chemically-bound) – 9863P
light (visible), photosensitisers/activators – 7107P
norbornenes polymers (ring-opened) – 8800P
photoinitiators
—benzyl compounds – 7097P
—heterocyclics/methylene substituents – 1303P
—triazines/heterocyclics – 2146P
photoinitiators/sensitisers, acrylics/dyes as – 6217P
photosensitisers
—dyes – 6218P
—phenothiazine derivatives – 6219P
pigments (white)/curability – 1323P
polyamic acids/isocyanates (unsatd) – 3829P
polyamines (unsatd)/azides (sulphonated) – 7113P
polyester acrylates, from tetrahydronaphthylsuccinic – 625P
polymers (unsatd), ring-forming groups/oximes esters/coumarins – 9849P
polythiol/polyenes – 9889P
polyurethane compsns, onium (various) – 9167P
refractive index, fluoropolymers/acrylates (fluorinated) – 4659P
siloxanes (unsatd), silethylene links – 2170P
siloxanes (unsatd) copolymers/siloxanes (mercapto-) – 2493
titanates (unsatd) – 5482P
tricyclodecane-based acrylates/polyfunctionals – 2151P
water-developable – 7822P
zinc diacrylate/phenothiazine/cyclohexanediones – 7091P
Photocuring
book chapters – 5608
modelling, photoinitiators light absorption/radical concentration – 5417
monitoring, DSC – 2992
Photodegradation
acrylic/melamines, deformation & – 4314
acrylic/urethanes
— 7076
—polymer types/mechanisms/stabilisers – 1055
acrylics, oximes groups, protective compsns – 5244P
book chapters – 5608
deformation & – 4314
epoxies, photolysis studies model compounds – 9421
mechanisms etc – 4011
polyesters (unsatd), stabilisers & – 1063
polymers
—degradation (mechanochemical) & – 4471
—dyes/pigments effects, & stabilisers – 4299
—review – 4313
polyolefins, impurities effects – 7303
polystyrene, stages – 5687
polyurethanes – 887
polyvinyl chloride, spectroscopy/mechanisms/plasticisers – 6483
Photography
bubbles, shapes/coalescence – 3725
contact angles determination – 1255
dyes, determination, Raman – 6052
mills (sand), grinding media behaviour, cameras (video) – 7718
mixing, liquid sheets impingement – 8323
paint defects, microscopy &, techniques/case histories – 9748
reflective photographic supports, coatings – 4835P
substrates for, cores/coatings as – 4238P
Photogravure Printing
See 'printing, photogravure'
Photoinitiators
acetophenone (substituted)/iodonium – 602
acridines
— 4654P, 8780P, 9865P
—pyridine groups – 3830P
acrylics, heterocyclics pendent, photosensitisers & – 6217P, 6217P
amines, photosensitisers & – 6218P, 6219P
amino groups etc/sensitisers/hypophosphites – 7090P
autoxidation presence – 786
benzil ketals
—efficiency/amines/FTIR – 2984
—products/amines role – 1286

Photoinitiators *(continued)*
benzoin (substituted), sulphonated alpha-hydroxymethyl – 3800
benzoin derivatives/(thio)pyrylium, surface hardness – 6232P
benzoin/isobutyrophenones (hydroxylated) – 7116P
benzophenones, alkyl groups – 2128
benzothiazole (mercapto), kinetics/tautomerism – 8762
blends, excited state interactions – 9830
book chapters – 5608
bound, photoresists – 3024P
chemically-bound
— 3840P
—on silica/cellulose – 9834
—phenones, reactivity/excited state processes – 8759
classification – 4639
coumarins/diketones – 5460P
deoxybenzoins, amines presence/absence – 2991
diketones/amines (unsatd, ketonic)/amines – 605P
diketones/sensitisers – 606P
dithiocarbamates, initiator/transfer agent/terminator – 9844
dyes/reactive counterions – 7106P
eosin – 9838
glycines/cinnamoyl groups – 7816P
halonium, rearrangement reactions/homolysis/heterolysis – 9831
heterocyclics, methylene substituents – 1303P
heterocyclics/peroxides/morpholinylacetophenones – 1304P
iodonium salts
—photosensitisers for – 1289
—photosensitisers/electron donors & – 8797P
—sensitisers/electron donors & – 4658P
iodonium salts (chemically-bound) – 9863P
ketones (aromatic)/aniline derivatives – 614P
lasers (argon) – 5460P, 5464P
layers, exposure then monomers application – 1292
light (visible)
—benzylidene ketones/aminocarboxylics – 5474P
—iodonium/sensitisers/electron donors – 4658P
—titanocenes/lasers – 4631
new – 9829
onium salts, photochemistry – 1292
oxaphosphorinanes, acyl groups – 8784P
peresters/dyes – 627P
peresters/unsatd carbonyl, fast initial – 6233P
phenones, blends, mercaptans/tetrahydrooxazines groups – 9854P
phosphine oxides
— 1287
—benzoyl groups – 3793
—efficiency/amines/FTIR – 2984
—products/amines role – 1286
phosphine oxides/iodonium salts – 5456
phosphonates – 1287
photocurables, modelling light absorption/radicals concentration – 5417
photoresists
—coumarins/iodonium salts – 2160P
—light (visible) – 9891P
photosensitisation, thioxanthones – 2989
porphyrins/electron acceptors – 4646P
proprietary, benzophenones blends – 3804
pyridyl ketones/co-initiators – 5479P
radicals/cationic (concurrent) – 600
reactive, reactable with other components – 3840P
redox systems – 2320
review, photosensitisers & – 3809
screening, nephelometry – 1287
silanes, polymers (ladder) types – 4980P
silanes (fluorinated), nitrobenzyl groups – 7114P
sulphonium salts, oxygen/solvents effects – 1291
sulphonium salts (acid-labile) – 7085P
thioxanthones/benzil/amines, solvent/concentration – 3798
titanocenes/coumarins – 2139P
triazines/allenes ligands/heterocyclics – 5464P
triazines/heterocyclics – 2146P
tungsten compounds, & photochromics thereform – 4650P
types/mechanisms/reactivity/trade names/manufacturers – 2982
ultraviolet-curables, initiators comparison – 2989
water-bornes – 9835
water-soluble
—benzophenones derivatives – 2176P
—benzophenones, photochemistry – 593
—thioxanthones, photochemistry/amines – 4637
water-soluble/hydrophilicity, hydroxypropyl phenones testing – 4867
Photolysis
See also flash photolysis
bisphenol A acetates – 9421
silanes (polymeric), ether-linked di/tetrasilane units – 184
water, hydroxyl generation – 8388
Photon Correlation Spectroscopy
combination
—with field flow fractionation (sedimentation) – 3752
—with light scattering, angles & – 3715
electrophoresis, mobility determination – 3747
equipment (proprietary), correlators – 6897
particle size & – 3755
particle size distribution – 3747
polymers, book chapters – 1928
polystyrene, dynamic Zimm/scaling constants etc – 9754
principles/polydispersity problems – 3748
techniques/polymers – 1965
Photopolymerisable Compositions
acrylates blends – 2152P
adhesion, glycol monoacrylates/anhydrides products – 5486P
benzophenones – 2155P
binders/polyunsatd compounds etc – 7094P
deposition, on paper, crease resistance/acid ageing resistance – 3004
emulsions/photopolymerisables/photoinitiators – 5480P
epoxy compounds (cycloaliphatic)/polyols – 7828P
epoxy compounds/dihydropyran esters – 9899P
fluorans/halogen compounds/monomers etc – 610P
iodonium salts/polymeric photosensitisers – 4657P
lasers (argon) – 5464P
optical discs manufacture – 2131
siloxanes, functionalisation for – 1299
stability (storage), photoinitiators – 3830P
Photopolymerisation
acetylenes, in phosphonates crystals – 8756
acrylamide, presence butanediones – 1298

Photopolymerisation *(continued)*
acrylates (polyfunctional)
—conversion (ultimate) – 2993
—networks/trapped radicals – 9662
acrylates/vinylpyrrolidone, synergism – 3000
bis(vinylphenyl) ethers – 1292
book chapters – 1447, 5608
butyl acrylate, kinetics/conversion/diffusion/termination – 8755
chain transfer/inhibition, by peroxides – 2983
cyclohexene/maleic anhydride, complexes/alternating – 9836
dithiocarbamates groups (terminal)/monomers – 4644
DSC
— 4543
—irradiation via fibres – 6157
—parameters – 5331
emulsions/microemulsions – 7078
fast, monitoring, infrared spectroscopy – 2126
fatty compounds (unsatd), multilayers – 598
glycidyl ethers, iodonium salts/photosensitisers – 599
hexafluorobenzene, surface deposition, ESCA – 3277
hexanediol diacrylate, deoxybenzoins/amines – 2991
imaging, polymerisation presence preformed – 5435
kinetics
—holography in studies – 4638
—laser (pulsed), free-radical systems – 9842
—rotating sector methods – 2999
lauryl methacrylate, lasers (pulsed) repetition rates – 7069
methacrylic acid, kinetics – 7072
methyl methacrylate
—benzothiazole (mercapto) – 8762
—kinetics, to glassy state – 4641
—methylanthraquinones, solvents effects – 6213
—mixing effects – 2135
—pyrene/amines – 6211
monitoring, real time, infrared spectroscopy – 1288
monomers, on pre-exposed initiators layers – 1292
phenylenediacrylic acids, esters, monolayers/multilayers – 2995
polymerisation (dark) after – 2126
post-polymerisation – 1288
silanes/oxygen precursors, siloxanes by – 3008P
solid-state
—dienes four-centre addition – 3802
—vinylcarbazoles – 3818
styrene/diethyl fumarate – 7068
styrene/methyl methacrylate, kinetics – 9843
template, methacrylic acid on polyethers – 112
uranium compounds (unsatd) – 633P
Photoresists
See also resists
acetals (difunctional)/acid generators – 7098P
acetoxystyrenes polymers – 8785P, 8786P
acetoxystyrenes polymers/monomers – 9866P
acid generators, acetal/orthoester/orthocarbonate groups & – 4655P
acid generators/acid-sensitives – 4655P
acrylamide (substituted), amines odours avoidance – 7082P
acrylamide polymers (substituted)/diazoquinones – 8799P
acrylamide/diacetone acrylamide copolymers – 8782P
acrylamide/photopolymerisables/acrylates – 5490P
acrylates, of phenolic compounds – 8808P
acrylates (polyfunctional), ethers links – 3851P
acrylates/phenolics, high temp etching – 634P
acrylic/urethanes
—from pentaerythritol etc – 8811P
—from polybutadiene – 4663P
acrylic/urethanes (photo-oxidisable), dyes initiators – 3831P
acrylics
—ammonium salts – 5459P
—polymeric org acids/monomers & – 8798P
acrylics (carboxylated), quinoneimines & – 2161P
acrylics (carboxylated)/photosensitives etc – 2162P
acrylics/azides – 5465P
adhesion, phosphonates (unsatd, acidic) – 5484P
alkali-developable – 7094P
anilides groups (pendent)/novolacs/polyethers – 7103P
anthracenesulphonates, nitrobenzyl groups – 8801P
azides/alkali-solubles – 2153P
azo compounds/diazoquinones/alkali-solubles – 7112P
benzene/diphenylmethanes for strength – 5473P
benzophenones modified by diazanaphthoquinonesulphonic acids – 2147P
benzophenones modified by diazonaphthaquinonesulphonic acids – 2171P
binders/pivalates groups/diazo resins – 5467P
carboxylic acids (polyfunctional, unsatd)/acrylates/dyes etc – 9864P
carriers for, dicyclopentadiene polymers – 3590P
chemistry – 4645
coatings for, protection by, dicyclopentadiene polymers – 3590P
coatings over, protection against masks – 8796P
concave/convex substrates – 8804P
curing, monitoring, dielectric properties – 2014
diazoquinones/cinnamonitriles (substituted) – 6238P
dyes/organo-boron counterions/thiones – 8773P
electrical insulation – 6237P
electrocoating
— 3024P
—diazoquinones (chemically-bound) – 7117P
—dispersions (aq), polymers/pendent diazoquinones – 7111P
electrocoating (anodic)
—acrylics (diazoquinone-modified) – 3834P
—diazoquinones (unsatd) copolymers – 8791P
electrocoating (cathodic)
—acrylics (diazoquinone-modified) – 3835P
—diazoquinones (unsatd) copolymers – 8790P
enamides (alkenoyl) polymers – 8022P
epoxies (modified), by diazoquinones/hydroxycarboxylics – 8803P
epoxies/silanes (nitrobenzyl)/aluminium compounds – 7114P
epoxy esters (unsatd) – 6240P
epoxy/acrylates (brominated) – 620P
fluorans/halogen compounds/monomers etc – 610P
heterocyclics/dyes (acid-sensitive)/iodonium – 5466P
hydroxyalkyl acrylates/acid chlorides products – 1591P

Photoresists *(continued)*
hydroxystyrene polymers
—azido groups – 8781P
—substituents – 8785P, 8786P
hydroxystyrene polymers (butylated) – 1314P
hydroxystyrene polymers/isocyanates (unsatd) products – 6226P
hydroxystyrene polymers/isocyanatoethyl methacrylates – 5472P
iodonium salts, iodonium in polymers main chain – 9862P
iodonium/aminoketones (unsatd)/nitrogen compounds – 6234P
lasers
—laminates with transparent films – 1321P
—light (visible)/direct imaging – 4631
—photocurables – 4646P
lasers (eximer), photosensitives/acridines – 7105P
lasers (pulsed), acrylics/absorbing groups – 1326P
light (visible)
—photoinitiators – 5474P
—photoinitiators/lasers – 9891P
maleic anhydride copolymers (modified) — 7827P
—unsatd/photoinitiator groups – 3024P
maleic copolymers/polymers (carboxylated)/unsatd etc – 5471P
manufacture, plants (new), South Korea – 7876
methyl methacrylate copolymers, anthracene groups – 3801
monolayers laminates, polymerised – 3451P
multiple layers, siloxanes (ladder)/azido groups – 7815P
novolacs
—& novolacs/diazoquinones products – 6235P
—benzophenone (hydroxylated, modified) & – 7095P
—diazonaphthoquinonesulphonates/stability (storage) – 9878P
—diazoquinones & – 8771P, 8772P
—diazoquinonesulphonates – 8809P
—from phenols (polyfunctional), diazoquinones & – 9869P
—from silylphenols – 6229P
novolacs (unsatd)/azides – 6241P
novolacs/acrylics (halogenated) – 6239P
novolacs/benzophenone diazonaphthoquinones – 2172P
novolacs/diazoquinonesulphonates – 7818P
novolacs/polymers – 6239P
phenolics/siloxanes/diazoquinones – 7821P
phosphatides – 201P
photochemistry – 4636
photoinitiators
—acridines – 9865P
—coumarins/iodonium salts – 2160P
—heterocyclics/methylene substituents – 1303P
—heterocyclics/peroxides/ketones – 1304P
—ketones (aromatic)/aniline derivatives – 614P
—titanocenes/coumarins – 2139P
photoinitiators (new) – 9829
photosensitivity, azo compounds – 1324P
polyamic acids (esterified), photosensitisers (pendent) – 7817P
polyamic acids (modified) – 7073
polyamides
—diamines/acylated aminocarboxylics – 2156P
—from phenyl styryl ketone dimers – 2129
polyamines (unsatd)/azides (sulphonated) – 7113P
polybutadiene/monomers copolymers – 1322P
polyesters, styrylpyridine/styrylpyridinium units – 1294
polyether acrylates/polymers (carboxylated)/halogen etc – 8777P
polyethers (unsatd)/acrylonitrile products – 6216P
polyimides (blocked), by methylol, acetals/ketals moieties – 7099P
polyisoimides – 3833P
polymers (alkali-soluble)/acid generators/acid-sensitives – 8793P
polymers (alkali-soluble)/diazoquinones/light absorbers – 6231P
polymers (unsatd), ring-forming groups/oximes esters/coumarins – 9849P
polymers/diazoquinones – 7104P
polymers/imides residues/acid labile groups/latent acids – 9867P
polyolefins/nitrobenzyl sulphonate (pendent) – 4667P
polyurethanes – 6223P
polyurethanes (carboxylated)
— 6222P
—alkali development – 609P
polyvinyl alcohol (modified) – 7084P
powder coatings (radiation-curable) – 3821P
printing plates, surfaces etc, characterisation/printability – 6989
resinates (gold)/azides, metals films from – 8650P
resorcinol-formaldehyde resins/silyl groups – 3815
sensitivity particular wavelengths – 2153P
silanes, polymers (ladder) types – 4980P
silanes (polymeric), silyl groups (pendent) – 2506P
silanes (polymeric)/naphthalene derivatives – 2164P
silanes copolymers – 4635
siloxanes
— 4635, 6237P
—diazonaphthoquinonesulphonates/active H & – 9858P
—diazoquinones – 4651P
—diazoquinones groups on phenolics – 9857P
—photosensitisers & – 2165P
siloxanes (ladder)
— 4635
—diazonaphthoquinones & – 5475P
siloxanes (unsatd) copolymers – 2493
siloxanes/ketones – 9859P
stability (thermal) – 1294
statistics/forecasts, US – 7140
strippers, GC/detectors – 8620
stripping, triamines/solvents – 9856P
styrene copolymers/silyl groups – 3013P
styrene polymers (fluorinated) – 8806P
sulphonium salts (acid-labile) – 7085P
thiophosphorus acids, oxygen inhibition resistance – 9892P
toluenesulphonates, nitrobenzyl, chemical amplification – 597
ultraviolet (far), siloxanes (unsatd, ladder) – 6224P
vinyl alcohol copolymers/glycerol acrylates – 2159P
water-borne compsns
—maleic copolymers (acrylated) – 4652P
—maleic copolymers (modified) – 4653P
—printing (screen) stencils – 4669P, 4670P
water-developable
—for plastics/glass etc – 7822P
—vinyl alcohol copolymers – 2158P

Photosensitisers
– 627P
book chapters – 5608
butanediones – 1298
chelates, five nitrogens – 8763
chemically-bound
—discolouration minimisation – 5424
—substrate-attracting groups &, cinnamates isomerisation – 9840
dyes – 6217P, 6218P
iodonium salts & – 599
Mannich bases (polymeric) – 1289
metals, polymers supports/micelles/inclusion – 3796
phenothiazine derivatives – 6219P
photoresists, siloxanes & – 2165P
polylactones (unsatd) – 2432P
polymeric, ketone/amino groups main chain – 4657P
pyrene, acrylates photopolymerisation – 6211
resists, thermal stability – 3836P
review, photoinitiators & – 3809
tetrahydroquinolines – 7107P
thioxanthones, photoinitiators comparison – 2989
ultraviolet-sensitive coatings, dosimetry – 1881P
ultraviolet-sensitive inks, dosimetry – 1707P
Photosensitive Compositions
chloroacrylates (fluorinated) – 2163P
diazonium salts/polymers (water-soluble) etc – 1311P
dienes (conjugated) copolymers (carboxylated) – 1310P
heat development, dyes (tellurium-containing) – 2148P
phenolics, diazoquinones/dyes/acid generators – 8774P
polyamic acids, monomers/peresters etc & – 3011P
polyamides (carboxylated)/monomers/peroxides – 3010P
polyimides (modified), by amines – 9898P
polyvinyl alcohol/polyvinyl chloride/dichromates – 9875P
siloxanes (ladder) – 616P
siloxanes (ladder)/ketones – 9859P
siloxanes/ketones – 9859P
substrates for – 4238P
vinyl alcohol copolymers/glycerol acrylates – 2159P
Photosensitivity
acrylics – 1594P
amines, coatings, polyamic acids/polyethers & – 4671P
aniline-formaldehyde condensates, diazonium groups – 5468P
azides, aldehydes products with indene/fluorenes – 615P
epoxies (linear, modified) – 8779P
photocurables, acrylics – 636P
photoresists, azo compounds – 1324P
polyamides, diamines/acylated aminocarboxylics – 2156P
polyepichlorohydrin (modified) – 3808
polyimides, benzylideneacetophenones groups – 1315P
polymers (unsatd), (hetero)cyclic groups, oximes derivatives/sensitisers & – 604P
semiconductors, transparent coatings – 4444P
silanes, polymers (ladder) types – 4980P
Photothermal Radiometry
coatings, techniques/uses – 5320
Phthalates
cross-linking agents, for halogenated – 5228P
determination, potentiometry, electrodes (ion-selective) – 1926
exposure, skin/absorption – 8709
oligomers, conductive compsns, pastes – 3857P
toxicity/metabolism, books/review – 4809
Phthalic Acids
adsorption, on oxides, orientation – 9737
exposure, sensitisation, hypersensitivity – 9759
Raman spectroscopy (surface-enhanced) – 6886
reaction, with polyenes (epoxidised), oxidation – 3232
sulphonated, phthalocyanine pigments manufacture – 3978P
Phthalic Anhydride
determination
—in alkyds – 8883
—in alkyds/esters – 8889
immune system – 2071
phenoxy groups, synthesis from fluorinated – 8028P
prices
— 3045
—demand decrease & – 7831
prices/statistics/forecasts/plants (planned) – 3865
statistics (US), exports – 3043
statistics/forecasts/plants – 3042
substituted, synthesis – 7267P
synthesis
—from pentane, kinetics – 7257
—from xylene/naphthalene, low naphthoquinone – 4862P
—plants (existing/planned)/capacities – 5512
—plants expansions – 681
—reactors/safety/explosions/venting – 9774
Phthalides
recording materials (heat-sensitive) – 5071P
substituted, anilino/diphenylethylene groups – 5071P
Phthalimides
potassium salts, products polyepichlorohydrin – 3808
Phthalocyanine Pigments
alpha-, ratio to beta-, determination – 2901
carboxylated, inks (water-borne) – 6606P
copper
—carboxylated, ammonium/phosphonium, inks – 2603P
—flake – 2262
—flake, colorimetry – 2264
—halogenated, from crude, recrystallisation – 770P
—manufacture – 7250P, 7983P
—manufacture, dry processes/by-products vapourisation – 8970
—manufacture, presence phthalocyanines – 7981P
—manufacture, presence pyromellitimides – 2274P
—manufacture, presence sulphonated – 7982P
—manufacture, sulpholanes solvents – 1482P
—manufacture, without corrosion/emissions – 3978P
—pigment compsns, dispersibility – 3968P
metal, manufacture, presence carbonates/oxalic – 9P
plate-like, basecoats, pigments/mica & – 9490P
stabilisers (light, chemically-bound) – 4827P
treatment – 6392P
vanadyl, manufacture/treatment – 1488P

Phthalocyanines
copper
—films, by ionised-cluster beam deposition – 2247
—MS & GC/MS – 8611
dermatitis (contact) – 552
excitation, by visible, infrared spectroscopy (time-resolved) after – 4501
fluorescence – 7958
modified, thioethers/thiazines, infrared absorption – 3117P
MS, & GC/MS – 8611
polymeric, structure, modelling/predictions/experiments – 8968
substituted, infrared absorption etc – 13P
sulphonamide groups, printing (ink jet) – 8293P
sulphonated, printing inks (water-borne), ink jet – 7432P
thermogravimetry – 7647
Phthalonitriles
polymers, conductive polymers from – 1609
products, with phenylenediamines, stabilisers (light) – 8178P
Physical Properties
adhesives – 5042
Pianos
wires, corrosion inhibitors – 1797P
Picking
resistance, paper coatings – 3561P
Picolinium Compounds
ylides, initiators – 3240
Piezoelectricity
detectors, crystals/coatings, aromatics detectors – 6064
polymers, uses – 2342
Pigment Compositions
acrylics/bound ultraviolet absorbers – 3967P
anthraquinone pigments, unsulphonated/sulphonated blends – 17P
castor oil (sulphonated)/polyethers/pigments (org) – 8988P
disazo pigments/benzidine derivatives & – 1469P
dispersants (polymeric), aq, stability (storage) – 780P, 781P
dispersibility, pigments/diimides – 7979P
flocculation resistance – 8985P
for water-bornes
—manufacture, milling/polymers (water-insoluble) – 1485P
—phthalates/polyvinyl acetate – 1667P
formulation &, stages – 2512
nitrocellulose, nitration degree, dispersion – 1471P
paints (hydrophilic/hydrophobic) – 8988P
pigments/polyether-substituted dyes – 4851P
pigments/sulphonics, drying (spray/freeze) – 2268P
pigments/triazines – 8985P
polyesters (unsatd) – 132P
printing inks, dyes/pigments – 8996P
printing inks (water-borne) – 2929
Pigment Concentrates
dispersions (aq), for inks – 4228P
inks
—polyethers/polyesters – 4230P
—polyvinyl acetate/polyesters – 4229P
pigments (coated), dispersibility – 4826P
printing inks (water-borne) – 7959
Pigment Dispersions
aqueous
—absorption coefficients, extenders &, powders properties – 753
—dispersants (polymeric), macromonomers polymers – 7972P
dispersants (polymeric)
—coupling agents/polymers products – 7971P
—dispersants in situ synthesis – 4840P
—polyisocyanates/amines products – 4840P
interactions, calorimetry/additives adsorption – 6986
paper coatings, dispersants/colloids (protective cationised) – 8989P
rheology, thickeners/latices effects – 8581
stabilisation – 2937
stability, electrophoresis/electrodeposition – 2937
Pigment Industry, Chinese
imports – 5499
Pigment Industry, Indian
pigments (org) – 766
products, types/properties/uses – 764
products/companies – 8964
Pigment Industry, Japanese
pigments (org), statistics – 1345
statistics – 6252
titanium dioxide
— 1353
—statistics – 1365
Pigment Industry, US
pigments (org)/dyes, statistics/forecasts – 4681
Pigment Pastes
dispersants, mixed versus simple – 4866
epoxies (modified), by phenols (polyfunctional)/amines – 227P, 228P
from tar acids – 7800
interactions, with paint bases – 9751
iron oxide (red, coated) – 768
lead in, determination – 7690
pararosaniline (sulphonated), alkyds/hydrocarbon resins etc & – 4232P
Pigment Volume Concentration
See also critical pigment volume concentration, supercritical pigment volume concentration & ultracritical pigment volume concentration
anticorrosives; effect on performance – 1454
anticorrosives (water-borne), pigments (flake) – 4547
coatings (two-tone) – 465P
CPVC &
—emulsion paints formulation – 7725
—importance/formulation – 6133
effective, equations, titanium dioxide – 2818
prediction, magnetic pigments – 4553
Pigments
See also individual pigments, e.g, iron oxide & titanium dioxide, classes of pigments, e.g, anticorrosive pigments, azo pigments, conductive pigments, fluorescent pigments & phthalocyanine pigments, & colourants, dyes, extender pigments, extenders & fillers
black
—from polymers/siloxanes treatment/heat – 32P
—polymers particles/copper sulphide – 1475P
—sugars production wastes – 4836P
blends
—coatings/colour non-uniformity – 8183
—with barium sulphate, absorption coefficient – 753
blue
—dihydropyrroloisoquinolines dimers, oxo – 760
—spectroscopy (reflectance), identification – 2901
—waxes compsns transparency improvement – 406P

Pigments *(continued)*
brown, caprolactam purification wastes – 4834P
camouflage – 7237
ceric oxide, manufacture – 783P
coatings, solar energy collectors – 2763
colorimetry, quality control, sample preparation/testing effects – 2807
colour strength, in inks, determination – 485, 6029
decorative effects, particles – 10-500 micrometres 8186P
determination
—in coatings, ashing/standards – 2232
—in coatings, centrifuges/standards – 2231
—in coatings, filtration/standards – 2233
dihydroquinolinediones quinonimines complexes – 3122P
directories (German), properties/suppliers/uses – 5604
directories (US) – 4146
dispersants
—epoxy silanes/amines products – 8026P
—triazines, tricyclics (pendent) – 6424P
dispersants (polymeric)
— 3152P, 3263P, 7285P
—silyl groups – 5654P
dispersibility
—alkyds (modified) for – 3249P
—alkyds modification, acid/base interactions – 3738
—alkyds/maleates for – 3269P
—polymers/phosphates groups – 4951P
dispersion
—degree (relative), by tinting strength – 6338
—dispersants (hyper-) – 795
—equations – 2251
—extruders/ink stock – 4240P
—mills (disc)/fineness of grind, standards – 5593
—standards (proposed) – 3091
—surfactants & – 2255
—theory/equipment (various) evaluation – 5076
—theory/mechanisms/stages – 8975
—wetting/positronium annihilation – 6092
encapsulation, polymerisation adsorbed initiators – 8042
extraction, by water, extracts resistivity – 5595
fine, from dyes (water-soluble)/insolubilisers – 26P
flake
—anticorrosives (water-borne) – 4547
—anticorrosives, review – 2250
—barrier effects, PVC etc – 4547
—coatings for polymers foams – 1847P
—coatings, under transparent sheets, basecoat/clear simulation – 6818P
—moisture-curables – 1786P
—nacreous effect – 8537P
—oxides (mixed), core/outer layer – 4822P
—oxides (mixed), on lamellar materials – 7976P
flocculation, determination/opacity loss – 6858
flow point, determination, quantity vehicles needed – 6341
from paint manufacture wastes – 8745P
gold, oxides (mixed) on lamellar materials – 7976P
golden, iron oxide, manufacture – 7984P
grooved surfaces, interference patterns – 1158P
history
—Rome, types/composition etc – 754
—Rome, types/names/composition – 755
interactions, with paint systems, activity coefficients/heat of mixing – 9751
intermediates/crude, supply problems/prices – 7834
ion-exchange materials/dyes (water-soluble)
— 775P, 776P, 8980P
—amphipathics & – 1472P
lead compounds, labelling, regulations (German) – 6325
lightfastness, determination – 8924
location, in coatings – 7008
maintenance paints, formulation – 9426
manufacture
—dusts, control – 7803
—effluents treatment – 7792
manufacturers (Spanish), divestment of share of – 5550
manufacturers (US) – 689, 7188
market/technology forecasts – 1331
microencapsulation, gelatin/formaldehyde – 4829P
microgels with cores of – 969P
microvoids – 6858
mills (jet) – 8332P
mixtures, formulation of coatings – 7370
natural, lightfastness, temp/photons – 7230
orange
—acid/alkali resistance – 8991P
—from copper mining wastes – 8991P
oxides (metal), powders (spherical), alloys combustion – 1486P
oxides (mixed)
—Fe/Zn etc – 5632P
—Ti/Ni/Sb etc – 6388P
oxynaphthenates (metal) – 2
paintings (old)
—Central America – 7950
—Mexico – 5612
paper, statistics/forecasts etc, market studies (American) – 7837
paper coatings
—blends – 9555P
—parameters/coatings properties/sedimentation volume – 9739
primers, SEM – 9715
printing inks
— 3399
—developments/proprietary – 7242
pyrrolopyrroles
—diketo derivatives – 4818
—diketo derivatives, structure/properties – 7954
pyrrolopyrroles/quinacridones – 1466P
raw materials, books/statistics etc – 8958
reactive, anticorrosives (water-borne) – 9471
regulations/effects – 3084, 6357
sedimentation
—sediment volume/consistency limits/spatial filling values – 2907
—thickeners (associative) – 799
silicates (chromium-containing) – 761
spectroscopy – 6888
stabilisation (steric), grafting – 2941
stabilisers on, for polymers – 8983P
statistics (Swiss), foreign trade – 7144
statistics (UK) – 4691
statistics/titanium dioxide effects – 5511
temperature-indicating materials, encapsulation – 1462
toxic materials in, Europe/USA – 652

Pigments *(continued)*
treated
—dispersants (polymeric) – 63P
—polymers &, transesterification resistance – 4930P
—resinates/rosinates – 3979P
—with pigments (anionic/cationic) – 1467P
ultraviolet-curables – 4643
water-bornes
— 7957
—particle size/optical properties – 7957
—stability/surface charges etc – 2919
white
—oxides (mixed), Ti/Zr etc – 1487P
—turbidimetry – 7741
Pigments Organic
manufacturers (Indian) – 8964
Pigments, Inorganic
coatings, polymers particles &, ink jet over – 9319P
colour changes, nitrogen dioxide – 7241
composition/crystal form/manufacture/properties/uses, many – 6336
health & safety data sheets – 4800
identification, microanalysis techniques – 5286
particle size distribution, determination – 6340
types/uses/manufacture/properties
— 7951
—Indian – 764
Pigments, Metallic
See also metal flake pigments
coated, by resins, & in situ polymerisation – 2266P
corrosion resistance, location/type – 1049
encapsulation – 2266P
manufacture, ultraviolet-curables/metal deposits over release – 1468P
printing inks (screen) – 8289
Pigments, Organic
coated
—by ethylcellulose (cross-linked) – 5625P
—by oxides, cellulose fixing layers – 6384P
—by oxides, chelates etc fixing – 5626P
—by oxides, ethylcellulose fixing – 5624P
colorimetry – 6851
colour depth/colour strength – 1179
composition/manufacture/properties/uses, many – 6336
developments – 8967
fading, nitrogen dioxide exposure – 7241
identification, microanalysis techniques – 5286
isoindoloquinazolines derivatives – 14P
manufacture, plants (planned) – 4719
manufacturers (German, West) – 7858
manufacturers (UK) mergers – 678
market (European), & statistics/forecasts – 666
printing inks (water-borne), ordinary/treated – 2929
properties relevant to/factors – 766
properties/performance, modification & – 3962
statistics (Japanese) – 1345
statistics (US) – 7834, 8826
statistics/forecasts (US), dyes & – 4681
supply problems/prices pigments intermediates – 7123
treated, by surfactants, water-bornes – 1460
treatment
—by plasma – 1463
—during/after grinding – 6392P
—with salts/milling then solvents – 34P
trends/non-Chinese production levels – 3964
types/properties, booklets – 5618
types/uses/manufacture/properties – 7951
Pigments, Polymeric
black, silver sulphide layers – 3975P
drying – 3980P
epoxies/dyes, in water – 9304P
flexible coatings – 952P
hollow particles, acrylics, inks – 4242P
latices, voids, particle size/voids volume – 4539
manufacture, dyes/polymers, via solutions – 31P
paper coatings, synthesis – 6800P
particles (core/shell), vesicles in core – 7251P, 7252P
polymer particles (colourant-treated) – 4841P
proprietary, coatings/weather resistance – 8966
vesicles, polyesters (unsatd)/monomers etc – 7965P
water-bornes, acrylics (carboxylated) – 234P
Piles
steel
—coatings, vinyl chloride polymers etc – 1153P
—polyurethane coatings – 1795P
—sheet-based, coatings, thin at joints between piles – 1083P
Pimelic Acid
conformations, in aq alkali, helices – 1203
Pine Chemicals New Zealand Ltd
acquisition, by Albright & Wilson – 5558
Pinene
isomerised, by pyrolysis, tackifiers from – 4034P
Pines
oils (essential), TLC – 4498
Pinholes
coatings without, polysulphides – 3498P
detection
—linings on concrete – 8927
—sponge/spark methods, standards – 2234
electrocoating, avoidance – 1755P
Pipeline Coatings
abrasion resistance
—determination – 8866
—ionomers – 4018
application
—in situ, cleaning & – 8339
—in situ, heating during – 8339
cathodic disbonding, testing, direct soil burial – 8872
cathodic protection, cathodic disbonding mechanisms – 9414
cathodic protection/defects, surveys (in situ) – 2659
chemical resistance – 8873
corrosion/defects, moisture/soils – 5151
defects, monitoring, AC/alternating magnetic fields – 8391
film thickness, determination still warm – 6985
impact resistance, determination – 8869
maintenance using, 'in the ditch' – 9448
monitoring, DC pulse/voltmeters, defects surveys – 6712
penetration resistance – 8870
polyethylene – 9439
requirements/types – 9454
stripping, bristles (carbide-tipped), near-white metal – 6678
temperature (low)
— 1854
—coatings – 8555P

Pipeline Coatings *(continued)*
water migration, electrochemical measurements – 2669
weathering (natural), standards – 8867
Pipelines
coated, joints/fittings/patches, corrosion resistance – 8871
coatings etc, requirements/types – 9454
corrosion, control/monitoring, computers/expert systems – 7542
design, of systems, guidelines – 5854
fusion-bonded coatings
—cathodic disbonding/heat, tests – 9428
—twenty-four hour tests – 8387
high-performance coatings, polyethylene – 9439
interiors of
—coatings application in situ – 9351
—coatings tolerating heating before exterior coatings – 2770
—coatings, justification by operating costs – 9577
—corrosion control procedures – 9351
—pretreatment/coating application, in situ – 6640
linings, application/corrosion inhibitors before – 8376P
maintenance, in situ, metal loss replacement/protection – 9365
pretreatment, procedures – 5092
pretreatment/application/handling – 305
submarine, pretreatment before corrosion inhibitors – 5161
underground
—adhesives (hot-melt) – 5831P
—electrochemical measurements, capacitance – 1061
—plants, defects detection, electromagnetic – 4321
underwater, corrosion/control, twenty years data – 7522
USSR/Europe links, coatings for, & structures – 1854
Piperazine
curing accelerators
— 4946P
—adhesives (epoxy) – 1001P
—epoxies/acrylates/polyamines & – 6757P
curing agents, for epoxies, acrylates/polyamines & – 9122P
derivatives, acrylates, quaternised – 906P
groups
—amines containing, sensitisation (contact) – 2096
—polyurethanes, thermal stability – 1610
products, with acrylics (modified) – 7285P
substituted, polyimides modified by – 5780
toxicology, chromosomes aberrations studies – 5362
Piperidine
derivatives
—carboxylates, anticorrosives – 8977P
—stabilisers (light), oxamides (polymeric) & – 7284P
groups
—acetamide (substituted), stabilisers – 3153P
—coatings, wires/pipes & – 6839P
—hindered, acrylics with – 4876P
—hindered, glycidyl groups, NMR – 7279
—hindered, glycoluril derivatives – 801P, 802P
—hindered, N-hydroxyl (etherified), stabilisers (light) – 9033P
—hindered, oxamides, ultraviolet absorbers – 1504
—hindered, pendent, stabilisers (light, bound) – 8030P
—hindered, polymers, linked via imides – 4879P
—hindered, stabilisers (light), diesters/high both with – 2309P
—hindered, stabilisers (light), mechanisms – 7276
—hindered, stabilisers against ozone/photolysis products – 55
—hindered, stabilisers, mechanisms – 1506
—hindered, stabilisers, mechanisms/monitoring/efficiency – 1507
—hindered, stoving/weathering losses – 6408
—hindered, trimellitimides – 4879P
hindered, stabilisers (light), mechanisms – 6411
substituted
—NMR (carbon-13) – 8637
—polymers, coatings, heat exchangers – 6014P, 6015P
Piperidones
groups, glycoluril derivatives – 802P
unsaturated, copolymers, antifoulings – 3537P, 3538P
Piperonyl Butoxide
insects repellents, amino acid derivatives & – 1813P
Piperylene
See pentadiene
Pipes
See also drainpipes & tubes
anticorrosives
—epoxies/hot liquid precuring – 6749P
—fluoropolymers layers/carbon (activated) layers – 2700P
—polypropylene (atactic) – 3461
cathodic protection, anticorrosives & – 3475
coatings
—aluminium (sprayed)/optional other – 9496P
—application, interiors then exteriors, epoxy resins – 8541P
—chemical resistance – 4348P
—fluoropolymers blends – 6822P
—maleic anhydride copolymers (proprietary) – 4914
—polyolefins/piperidine groups/stabilisers (heat) – 6839P
—three-layer systems – 8392
coatings/tapes, cathodic disbonding, temp/adhesion strength – 2688
concrete (resin-modified), coatings, cracking/corrosion control – 3491P
copper, interiors, coatings, application/nitrogen-containing – 4436P
exteriors/interiors, corrosion inhibitors – 400P
fusion-bonded coatings
—application/quality assurance – 8350
—epoxies, chromating effects – 9359
glass, coatings, chemical resistance – 3487P
impregnation varnishes, polyesters/sulphonic acids/dessicants – 8477P
interiors of
—coatings, steel manufacture plants – 1769
—heat-resistant coatings, epoxies/application – 1144P
—repair, in situ, abrasives then coatings – 6669P
linings
—application (in situ) – 9358
—epoxies, leaching resistance rapid – 4440P
—sealers against alkali loss/pipes corrosion – 6620P
mastics, bacteria &, effects – 9514

Pipes *(continued)*
metals (zinc-coated), pretreatment/anticorrosives – 4351P
plastics
—degradation – 5930
—recycling/coatings/agriculture – 7593
powder coatings, polyolefins/silanes graft copolymers – 979P
pumps, linings – 7540
repair/relining, proprietary systems – 8336
sealants, fatty acids/hydroxides – 6619P
steel
—adhesives for tapes/sheets, room temp – 7426P
—anticorrosives, electro-active org polymer materials – 1789P
—anticorrosives, epoxies etc & – 4342P
—coatings without primers – 3489P
—coatings, cathodic disbonding resistance – 3489P
—linings, epoxies/improvers/thixotropy – 6018P
—polyurethane coatings, from coumarone/hydrocarbon resins – 5241P
—powder coatings/primers – 261P
—primers (ultraviolet-curable) before coatings – 8751
—primers (ultraviolet-curable), curing conditions – 8753
—primers (ultraviolet-curable), diluents/modifiers – 8752
—temporary protection, ultraviolet-curables – 8753
steel (chromium-containing)/powder coatings – 262P
steel (metal-coated)/powder coatings – 260P
underground
—coatings/holidays depth effects – 6715
—hot fluids, coatings/antioxidants loss control – 7619P
—mastics/bacteria – 9514
water
—blasting (in situ)/coating (in situ) – 9350
—interiors, coatings curing by hot liquids – 7617P

Pitches
See also coal tar pitches
FTIR, dilution matrices/sensitivity – 6078

Pitting
See also pitting corrosion

Pitting Corrosion
electrochemical measurements – 6706
fouling organisms & – 5908
micro-organisms &, stainless steel – 9416
rebars, simulation, solid gels (alkaline) – 3481

Pivalates
groups, binders, photoresists, diazo resins & – 5467P

Plaforisation
See also 'phosphating, organic'

Planning
See also design
corrosion testing – 1766
painting plants – 3101
weathering (natural) – 2660

Plants
See also chemical & power plants
control, inferential, adaptive estimation algorithms – 1026
corrosion
—prediction – 745
—risks/symptoms/causes/remedies – 2662
cotton mills, coatings/fungal colonisation – 3530
degreasing, regulations (German) – 4756
design, materials selection/testing – 5926
design/scheduling, algorithms/constraints – 7451
emulsion polymerisation – 796
estuarine, tributyltin uptake/degradation/monobutyl release – 5387
fertilisers, coatings, corrosion resistance – 6731
food, coatings, guidelines/proprietary – 7602
formaldehyde synthesis – 4727
hazards, assessment, on-site/off-site effects – 4804
hydrocarbon resins, Japan – 4682
industrial, inspection/testing/quality assurance – 10005
isocyanates processing, cleaning – 4296P
life extension analysis, coatings etc & – 3460
management, just-in-time – 3050
monitoring, sampling frequency/analysis – 3694
multipurpose, design, mathematical programming (non-linear) – 9330
multistage, modelling, coating/equipment sizing etc – 9335
paint manufacture
—aerospace etc systems – 5568
—automation – 5080
—closure, Glasgow – 4723
—water-bornes – 9334
pigments (org) – 4719
pilot, paint manufacture, design/lay-out etc – 7463
pipelines (underground), defects monitoring – 4321
polyvinyl acetate synthesis – 4726
powder coatings manufacture – 4254
process control
—automation, fatty acids – 4253
—automation, specification development – 2519
—automation, troubleshooting/expert systems – 3425
—batch systems – 7460, 7461
—computers, integrated with other uses – 3048
—controllers (programmable), manufacturers/products – 7445
—feedforward/feedback – 3419
—inferential control algorithms (adaptive) – 7459
—loops/tuning coefficients – 8325
—proprietary products – 8320
—sensors, micro-organisms use for – 4519
—statistical – 3052, 4698, 9332
—statistical, colour – 8572
—statistical, principles/charts types etc – 2046
quinacridone pigments – 4718
reactors, heat transfer/scale-up – 295
registration, regulations (UK) – 4744, 4759
resins synthesis, Japan – 5536
safety, surveys – 9778
solvents manufacture, China – 4712
steel (zinc-coated), case histories – 2675
valves, activation, developments – 5079
vinyl chloride etc, sale failed – 9958

Plasma
ammonia, treatment with, plastics – 4270
curing by, coatings on holograms – 9552P
inductively-coupled
—atomic emission spectrometry – 4478, 6106, 6939
—atomic emission spectrometry, Fourier deconvolution/lines overlap – 4529
—atomic emission spectrometry, HPLC & – 4481
—atomic emission spectrometry, metals, multielement – 1232

Plasma *(continued)*
—atomic emission spectrometry, nebulisers/desolvation – 6109
—atomic emission spectrometry, particulates extraction methods – 3675
—atomic emission spectrometry, trace elements – 2881
—GC detectors – 5291
—MS, analysis (trace)/lobsters – 1986
—MS, HPLC & – 6106
—samples direct insertion – 4523
—solids aerosols introduction – 6939
—spectrometry, drain systems (pumped) – 7693
—spectroscopy, equipment – 6921
—spectroscopy, Fourier transform – 3696
microwave-induced
—atomic emission spectrometry, nebulisers/desolvation – 6109
—direct nebulisation for, spectroscopy – 6091
nitrogen, treatment with, plastics – 4270
oxygen, resistance to, siloxanes copolymers – 4419
treatment with
—acetylacetonates conversion to oxides – 3106
—acrylics, surfaces from, analysis – 6111
—coatings, corrosion etc resistance improvement – 1753P
—equipment, generators/reactors – 6674P
—fluoropolymers/wetting – 8679
—pigments (org) – 1463
—plastics – 3446
—plastics, changes on storage after – 2925
—plastics, fluorination, non-polymerisables/polymerisables – 2330
—plastics, grafting – 1558
—plastics, polymerisation/functionalisation – 1731
—polypropylene, SIMS – 6950
—polyvinyl chloride/properties after – 6655
—silicone rubber, groups formed, FTIR – 6105
—surface energy/adhesives/shear strength – 6644
treatment with plasma guns – 9338

Plasma Polymerisation
See also glow discharge entries
acrylates, resists from, & free-radical – 1325P
coatings by, equipment/parameters/plastics substrates – 2635
deposition rates, factors, reactors design – 1541
glycol ethers – 5704
hexafluorobenzene, ESCA/mechanisms – 3277
plastics modification – 8041
quinacridones, coatings etc by – 9152P
review – 3194
silanes (fluorinated), resists by – 1316P
silicon compounds, coatings by – 2774P
siloxanes
— 2635
—ESCA/FTIR/structure – 9169
thin films by, techniques/advantages/difficulties etc – 9050
vinylpyrrolidone – 5744

Plasma Polymers
corrosion resistance, high/low energy in deposition – 1765
deposition, tribology of treated surfaces – 1890
tetrafluoroethylene, etching/undercoats protection – 9756

Plasters
salts (soluble) in, determination – 534
treatment, fluosilicates – 6732

Plasticisers
amines, for powder coatings – 1677
antifoulings, bioactivity – 4358
barrier coatings, polyethylene & – 7610P
bleeding, coatings resisting – 443P
blends, coatings for automobiles – 1719P
carbonates – 9257P
coatings, weathering losses – 2897
determination, potentiometry, electrodes (ion-selective) – 1926
dihydrodicyclopentadienes – 8282P
diphenyltetracarboxylic acid esters, heat resistance – 1824P
ethylhexanols still residues – 9009
HPLC – 9713
internal
— 121P, 138P
—epoxies &, mechanical properties – 8593
plastisols, viscosity/modelling/products properties – 3618
polyesters – 9123P
polyesters (reactive), migration resistance – 4249P
polyurethane compsns, drying oils & – 5037P
sealants
— 284P
—phthalates, properties/levels etc – 1020
solubility parameters, GC (inverse) – 2930
vinyl chloride copolymers, electrochemical measurements/permeability – 5137

Plastics
See also electromagnetic interference & radio frequencies
abbreviations, standards – 1411
abrasion-resistant coatings
— 5197, 7592
—amino resins/polyesters – 1118P
—epoxy silanes/amines (blocked) tintability – 9553P
—radiation-curables – 629P, 3843P
—silica/carboxylates (unsatd) – 5979P
—undercoats/topcoats – 1845P
adhesion promoters
— 8487
—adhesives & – 5128P
adhesion to
—acrylics/no mercaptans odours – 5826P
—tests/solvent-bornes/water-bornes – 7642
adhesives
—acrylic/urethanes & polyolefins (halogenated) – 3390P
—adhesion promoters, polyamines (modified) – 3379P
—azomethine compounds/polymers – 8276P
—block copolymers etc – 2587P
—curing agents/substrates interactions – 7419
—failure surfaces, SIMS – 2847
—for steel &, polyesters/isocyanates – 4222P
—metals/plastics composites – 9263P
—plastics types/pretreatment/adhesives – 7418
—polyurethanes – 9284P
—sheets, heat-sensitive compsns – 8277P
—solvent blends/polymers – 3380P
adhesives (epoxy)
— 3393P
—fast-curing compsns/no pretreatment – 3372
adhesives (hot-melt)
—bonding fabrics to – 2574P
—polyolefins blends – 8268P
adhesives (water-borne)
— 996P, 2577P, 4217
—acrylics/tackifiers – 4220P

Plastics *(continued)*
anti-misting coatings
— 468P, 1312P
—acrylics etc – 2756P
—alkanolamines – 8497P
antistatic coatings
— 7597P
—ethyl silicate (hydrolysed)/resins – 5207P
—organo-silicons/tin co-hydrolysates – 7600P
antistatic coatings (radiation-curable) – 5429
automobile bumpers, painting, plants – 6636
automobiles &
—adhesives – 3391P
—adhesives/primers – 3392P
—blends, paintability/reactive sites – 1113
—coatings/impact strength – 440
—electrocoating (cathodic) curing temp reduction – 9217
—painting, experiences/selection/on-line/off-line etc – 2632
—painting, factors/selection/application – 1115
—painting, plants/just-in-time – 5086
—painting, properties/economics – 1114
—refinishing & – 317
—spoilers, basecoat/clear, polyurethanes – 9544
—window runners coatings – 5236P
bonding
—factors – 7418
—to silicone rubber (filled), adhesion – 9268P
—to steel, heating/ferrites particles – 6594P
books, types/structure/properties – 8955
bottles of, barrier coatings – 5984P
cameras, textured coatings – 4398
coating (in-mould), monomers, curing before injection – 5205P
coatings
—acrylamide copolymers (substituted) – 1172P
—acrylics/epoxy/polyolefins (chlorinated) – 4410P
—acrylics/polyesters products – 6832P
—acrylics/silyl groups/isocyanates – 6797P
—alkyd/melamines & ceramics powders – 9502P
—cross-linking agents, vinyl ethers – 8492P
—cyclopentyl acrylate polymers/polyolefins (chlorinated) – 1842P
—developments – 2510
—developments, patents/future – 5973
—epoxy silicones – 1177P
—fluoropolymers – 1840P
—for both metals & – 440
—for both metals &, flexible primers – 5194
—graft copolymers/cross-linking agents – 1549P
—hydroxylics/anhydride groups/chelating agents etc – 2798P
—hydroxylics/metal compounds/anhydrides – 940P
—impact strength/combinations/temp – 440
—interactions plastics/coatings – 6790
—interfaces/theories/defects – 439
—macromonomers copolymers – 6795P
—manufacturers (German), mergers – 7167
—mechanical testing (high-speed) – 2838
—nitrocellulose/aluminium/dimethyldioxane – 5204P
—plasma polymerisation – 2635
—polyesters (modified) – 141P
—polymers (chlorinated), acid release/no pretreatment – 9548P
—polyolefins (chlorinated, proprietary) – 441
—reasons – 5200
—scratch resistance – 1877P
—silica layers, application – 9561P
—silicones, review – 3554
—silicones/siloxanes – 2567P
—silicones/siloxanes/mica – 2780P
—siloxanes copolymers – 4419
—solvent resistance – 1118P
—styrene polymers/acrylics – 8498P
—surface organisms control – 422P
—vapour deposition, ketene acetals – 2646P
—vegetable oils (condensed)/indulines etc – 1841P
—wear resistance, primers/topcoats – 1846P
—weather resistance, acrylates/siloxanes (unsatd) – 9559P
—without primers, silicones, curing (shock) – 3558P
coatings (inorg), chromium oxide/phosphorus acids etc/metal powders – 445P
coatings (two-component), acrylics – 2418P
combustion products, corrosion – 3775
conductive coatings
— 5219
—oxides (coated)/acrylates – 2795P
—oxides (treated) – 774P
—polyurethanes, spiro resins – 7623P
—thiophenes polymers – 5206P
containers from
—coatings, polyamide-imides – 5755P
—lids/drop resistance – 3791P
—paints – 592P
—paints, versus metals – 7063
—ultraviolet-curables then printing/stamping – 3027P
—water-bornes, vinylidene chloride polymers – 4403P
crackle finishes – 8526P
decorative patterns, ultraviolet-curables then printing/stamping – 3027P
definitions – 1409
directories (UK), materials/equipment, etc – 4803
drums from
—advantages – 7066, 9826
—flammable liquids/electricity (static) – 2106
electromagnetic shielding – 5198, 5215, 6006P
electrostatic spraying
—plants/equipment – 3437
—polyurethanes/conductive materials – 9563P
emulsion paints – 5024P
fires
—fire retardants/toxicity/smoke/escape times – 4568
—tests/standards (BS) outlines – 5591
flame-retardant coatings (water-borne) – 8481
foams of
—antistatic coatings – 6798P
—metallisation, clear coats (coloured) – 2754P
—polyurethane coatings – 3553
FTIR (photoacoustic) – 6077
fungal growth, resistance, testing methods – 1095
furniture (garden), painting, plants – 5877
grafting, with acrylic acid/acrylates – 340P
granules, emulsion-coated, multicoloured coatings – 455P
hardness, determination – 1364
heat-curables, siloxanes (unsatd) copolymers – 926P
heat-sealable coatings, primers (water-borne) – 4407P
helmets (safety), painting – 6653

Plastics *(continued)*
high-solids coatings, siloxanes (unsatd) copolymers – 5776P
high-solids coatings (thermosetting) – 1119P
inserts, in concrete, adhesion promoters – 4425P
intumescent coatings – 5970P
lenses
—adhesives (ultraviolet-curable) – 9902P
—coatings, silanes/epoxy silanes/acrylics – 2757P
lids, for containers – 3791P
lubricating coatings, fouling avoidance – 3560P
marking inks – 9321P
masking materials, treatment so paint adheres – 1741P, 1742P
metallisation
—bonding to paper – 5039
—matt coatings, talc etc – 6827P
—primers before – 1141P
—ultraviolet-curables over, oxanilides etc – 9887P
modification, ions implantation – 8349
modified, by wood wastes/acetic acid – 9825P
moisture-curables
—polymers/silyl groups – 9550P
—polymers/silyl groups/silanes – 9204P
—silyl groups/isocyanurate groups – 9549P
mouldings of
—adhesion promoters, aziridines – 9040P
—coating (in-mould) – 5201P
—coating (in-mould), powder coatings – 9366
—coating (in-mould), silanes (hydrolysed)/acrylics – 8496P
—coating (in-mould), spiro glycol acrylates – 5977P
—coating (in-mould), ultraviolet-curables – 3563P
—coating (in-mould)/release – 8488
—coatings, acrylates/siloxanes (unsatd) – 9559P
—coatings, acrylates/stabilisers etc – 1121P
—coatings, acrylics (hydroxylated)/isocyanates compounds – 9568P
—coatings, curing agents from plastics – 448P
—coatings, petrol/weather resistance etc – 9554P
—coatings, substrates mechanical properties changes – 5976
—coatings/adhesion – 8489P
—conductive coatings without pretreatment – 9564P
—release agents removal – 5895P
—RIM, coatings/vapour curing – 9567P
—RIM, paintability – 1117P
—RIM, polyurethane coatings/vapour curing – 9392P
—RRIM, coatings (in-mould) – 5199
—SMC, flame treatment/adhesives/failure locus – 2628
—SMC, powder coatings – 9249P
—surfaces colouring by diffusion – 1837
—ultraviolet-curables – 6227P
non-stick coatings, sulphonates/sulphates (org) – 9579P
oxygen index
—determination – 4561
—temp effects – 5330
packaging from, coatings/strain compliance – 5975
paintability, nitrating/heating/forming/cooling contact polar – 6430P
painting
— 1735, 3101
—automation/spray cabins etc – 6653
—coatings types/plants – 1031
—lines – 5862
—plants – 6295
—plastics types/coatings/application processes – 5195
—problems/pretreatment/materials/application – 4264
—spraying (thermal), equipment – 9371P
—stages/weather resistance etc – 5096
—substrates problems, inhomogeneities/junction lines – 6638
—types/uses/paints – 5972
photocurables, acrylics/acrylates (polyfunctional) – 9880P
pipes
—degradation – 5930
—recycling/coatings/agriculture – 7593
polyurethane coatings
—polyurethane-ureas/melamine resins – 4409P
—soft touch – 5196
polyurethane coatings (two-component) – 6801P
polyurethane coatings (two-pack) – 1124P, 5983P
polyurethane coatings (water-borne) – 4177P
powder coatings, powders treatment/charging (triboelectric) – 5200
pressure-sensitive adhesives, emulsion polymers – 8281P
pretreatment
—corona discharge – 3440
—electrical discharges/chlorinated compounds – 8364P
—for printing – 5114
—hazards – 6177
—ions bombardment – 7510P
—methods/selection/factors – 6637
—methods/surfaces characterisation/adhesion – 1041
—phosphoric acid/solvents – 6663P
—plasma polymerisation – 8348
—ultraviolet radiation – 5110
pretreatment/painting, plastics types – 5867
primers
—before adhesives – 1126P
—before cyanoacrylates – 447P
—ethylene/propylene copolymers (maleinised) – 7599P
—flexibility, temp (low) – 469P
—polyurethanes – 1148P
printing, surface tension & – 2594
printing inks
—epoxy/amine adducts – 1011P
—polyester-urethanes – 1006P, 7435P
—polyurethane-ureas/dyes – 8292P
printing inks (radiation-curable) – 641P
printing inks (water-borne)
— 3404P
—considerations – 2592
—wetting promoters/adhesion – 5063P
radiation-curables
— 6243P
—acrylic/urethanes etc – 3861P
—adhesion promoters – 71P
—polymerisables/organo-silicones (unsatd) – 3023P
recycling
—plastics types & – 8731
—US measures/alternatives to – 9812
release coatings (ultraviolet-curable) – 7808
statistics (US) – 6273
structural, coatings, siloxanes & esters/phosphates – 1125P

Plastics *(continued)*
surfaces, grafting onto – 99
syringes, printability, pretreatment – 9385P
testing (accelerated), additives/photo-oxidation/thermo-oxidation – 5909
thermal analysis, lifetime predictions – 5315
toughened
—manufacture/mechanical properties – 4884
—preparation/particles cross-linking, review – 4015
transparent
—abrasion-resistant coatings – 9553P
—abrasion-resistant coatings, radiation-curables – 7093P
transparent coatings
—acrylics (fluorinated)/cross-linking – 4408P
—bleeding resistance – 443P
—polyurethanes – 475P
—siloxanes etc – 462P
—weather resistance – 3562P
treatment
—carbon sputtering, adhesion – 5886P
—corona – 316
—corona discharge, peroxides groups/grafting – 3442
—lasers, etching/degradation/ablation – 8634
—plasma – 6644
—plasma, changes on storage after – 2925
—plasma, fluorination, non-polymerisables/polymerisables – 2330
—plasma, fluorocarbons – 3446
—plasma, grafting – 1558
—plasma, nitrogen/ammonia – 4270
—plasma, plasma guns – 9338
—plasma, polymerisation/functionalisation – 1731
—plasma, surfaces from, analysis – 6111
—plasma, treatment time/wetting – 8679
—plasma, tribology – 1890
—polysaccharides/isocyanates, hydrophilicity – 5978P
—silica/surfactants, anti-adhesion by – 1122P
—swelling agents/alkaline/acidification – 5888P
—with ion beams, properties & – 6650
types/coatings/adhesion/painting – 4400
types/coatings/future aims – 6793
ultraviolet-curables
—acrylates/ultraviolet absorbers – 1308P, 1309P
—application/curing, equipment – 5097
—epoxy siloxanes – 5411
—epoxy/acrylates, adhesion/FTIR etc – 2130
undercoats, & electrostatic spraying over – 7598P
vehicles (motor) &
—finishing both metals & – 3571
—mouldings, paintability – 1117P
—painting, plants – 1031
—problems/coatings – 9220
volatiles, loss, determination – 1410
water-bornes
— 5194
—epoxies/thermoplastics etc – 9226P
—present/future – 6790
—silanes/silica etc – 955P
water-bornes (thermosetting), acrylics – 6562P
weathering, tropical conditions – 357
Plastics, Reinforced
adhesives (epoxy, two-component) – 7421
chemicals attack – 7524
coatings, blistering/substrates stoving emissions – 6789
epoxies, glass fibres treatment – 2913
gel coats/barrier coatings, blistering resistance – 6791
linings, tanks repair – 368
plants, women (pregnant)/birth weights – 4593
powder coatings, coating (in-mould) – 9366
water-bornes, foams, collapse/smooth coatings – 9565P
Plastisols
See also non-aqueous dispersions
coatings
—adhesion promoters in, topcoats over – 9327P
—automobiles, migration resistance etc – 4249P
—automobiles, plasticisers blends – 1719P
—defects – 7440
—for galvanised, durability – 5900
—weathering, depth profiles/thickness, durability – 2897
plasticisers, viscosity/modelling/products properties – 3618
polyvinyl chloride
—adhesion promoters – 8591
—anticorrosives – 5152
—coil coatings durability prediction – 2897
—fillers comparison – 4816
—hardness/acrylics – 5074P
—two sizes, acrylics powders & – 1718P
—weathering, natural/accelerated – 5901
polyvinyl fluoride, over epoxies, pipes – 4351P
printed circuit boards, migration resistance etc – 4249P
printing inks, formulation/advantages – 2590
vinyl chloride polymers
—polymerisation for – 1717P
—strippers for – 344P
Plating
See also electroless plating
chromium, fluoropolymers/epoxies adhesion to – 1863P
fasteners, electrocoating over – 9505P
tanks cleaning, hazards, barium carbonate – 2965
Platinum
catalysts, microcapsules – 923P
complexes, coatings containing, olefins detectors – 1236
mercaptides, inks – 8298P
Plectranthus spp
vegetable oils – 4853
Plywood
coatings
—binders (org/inorg)/aggregates – 7618P
—phenolics/polyamides/glycerol – 6834P
filling compsns (ultraviolet-curable) – 9883P
fire retardants, comparison plywood – 9540
fire-resistant coatings, water-glass etc – 6788P
furniture, painting – 7468
grooves, water-bornes for bottoms of – 239P
manufacture, adhesives, bond strength (initial) – 2580P
moulds, for concrete, coatings – 6834P
sealers, polyurethanes/wood meal – 7442P
shuttering, for concrete, coatings – 1880P
Pneumoconiosis
kaolin – 7034
Pneumonitis
hypersensitivity
—diphenylmethane diisocyanates – 7043
—isocyanates – 8719

Poisoning
glycol ethers – 5347
Polarimetry
flowing liquids – 6854
Polarisation
cathodic, weathering (accelerated) using – 2667
electrochemical measurements, concrete (reinforced) – 6702, 6718
measurement, potentiostatic/potentiodynamic, standards – 1412
Polarisation Resistance
corrosion rates, rebars – 380
determination, rebars, theory/experiment – 1767
differential, determination/corrosion current – 5903
Polarography
lead, in pastes/primers – 7690
organo-tins – 7655
Polibutenos
polyisobutene, plants (Brazilian) – 3886
Polishes
floors
—acrylics etc – 9626P
—history/performance – 9325
—maleic copolymers – 9114P, 9115P
for coated surfaces, alkoxides, chemical binding – 6622P
Polishing
dusts, coatings against – 8538P
nylon brushes, resistance to, coatings – 6829P
Polivar SpA
acquisition, part of, by Repsol Quimica – 5556
Pollutants
See also air & water pollutants, air & water pollution, & pollution
biodegradation – 8743
chromium – 1272
GC/FTIR/MS – 1207, 9683
levels, in environment, data on various chemicals – 578
monitoring, problems/recommendations – 9669
organics (halogenated), dehalogenation – 8740
Pollution
See also air & water pollution, air & water pollutants, pollution (marine) & pollutants
antifouling paints – 6716
data, OECD compendia – 8734
dioxins (chlorinated)/dibenzofurans (chlorinated) – 8728
environmental distribution prediction – 578
HM Inspectorate of Pollution, report (1987-8) – 5585
marine
—antifoulants, biota effects, review – 7786
—mussels, organo-tins, tissue levels USA – 8737
—organo-tins – 2726
—titanium dioxide manufacture, avoidance – 7048
—tributyltin, effects/ban effect – 9521
—tributyltins, degradation, marinas – 6203
monitoring, sensors, micro-organisms use for – 4519
mussels & – 414
national economy damage by – 9817
organo-tins, USA, oysters/mussels levels – 3787
paint manufacture – 584
painting
— 584
—measures against – 2629
regulations (US) – 1451, 9988
solvents (chlorinated) – 4625
titanium dioxide manufacture
— 3032
—measures – 7234
Pollution Control
cashew nutshell liquid synthesis – 7986
India – 2121
plants (chemical)
— 7897
—public relations & – 7787
regulations, ships painting – 8727
regulations (German) – 7210
regulations (UK), plans/EEC directives – 3922
titanium dioxide manufacture wastes – 8856
waste disposal/regulations (UK), guides – 8960
Polyacrylamide
acrylonitrile hydrolysis – 7271P
latices, from microemulsions – 1249
primers, for aluminium – 6756P
Polyacrylate, Sodium
toxicity, rats/hypotension/haemorrhages etc – 8716
water in, DSC/transitions below zero deg C – 9685
Polyacrylic Acid
blends, with polyvinyl methyl ether, & complexes – 3165
conformations/potentiometric titrimetry/hydrolysis presence – 4050
phosphate coatings modified by – 322
synthesis/uses, review – 8098
water in, DSC/transitions below zero deg C – 9685
water-bornes
—alkaline materials/cosolvents etc – 3354P
—maleic acid copolymers & – 8203
Polyacrylonitrile
powders, matt coatings – 1077P
Polyalkylene Glycols
cure rate control by, epoxies – 9120P
ethers, naphthyl/sulphopropyl – 6666P
Polyamic Acids
aromatic
—adhesives (heat-resistant) – 1000P
—solutions addition to high b.p. solvents – 1000P
benzylideneacetophenones groups (pendent) – 1315P
blends
—carboxyl/amino terminated, carbodiimides & – 8478P
—curing – 5737
coatings, polyethers/photosensitives & – 4671P
curing
—kinetics etc/FTIR – 5749
—monitoring, fluorescence/spectroscopy – 1199
—monitoring, infrared spectroscopy – 5298
electrocoating (non-aq) – 942
esters, photosensitisers (pendent), photoresists – 7817P
film formation, mechanical properties during – 5307
modified, photosensitivity – 7073
photocurables, isocyanates (unsatd) & – 3829P
photosensitive compsns, monomers/peresters etc & – 3011P
stability (storage), solutions, orthoesters – 178P
synthesis
—presence phosphines/phosphine oxides – 1631P
—secondary solvents addition, viscosity effects – 2479P

Polyamide Acids
electrocoating – 5793P
from butanetetracarboxylics – 5793P
hydroxylated, for polyimides – 9161P
Polyamide-imides
aromatic, coatings for electronics – 3589P
block copolymers, with siloxanes – 4981P
coatings
—for copper, adhesion/electrochemical measurements – 7641
—from trimellitic/diaminodiphenylmethanes – 5755P
electrical insulation
— 2744P
—electrocoating with – 9535P
from benzophenones/diaminobenzanilides – 162
from dianhydride/lactams/(poly)phenylene – 2744P
heat-resistant coatings, isocyanates (blocked) & – 5226P
printing pastes
—resins particles & – 9296P, 9297P
—thixotropy, resins particles & – 4231P
products, with polyester-imides – 9534P
siloxanes groups (main chain) – 2497P, 2498P
synthesis, catalysts/melts fluidity etc – 9147P
Polyamide-urethanes
carboxylated, photoresists – 6222P
Polyamides
adhesives, polypropylene/aminosilanes & – 3389P
adhesives (hot-melt) – 6509P
aliphatic
—synthesis, review – 3284
—thermo-oxidation, yellowing & – 9128
aromatic
—from diisocyanates/mixed dicarboxylics – 6501
—from diphenylpropane derivatives – 4108P
—heat resistance – 6501
—synthesis, review – 3295
blends, from fatty acids etc, water-bornes – 6573P
block copolymers, synthesis – 4022
carboxylated
—cyclisation/cross-linking – 5458P
—photosensitive compsns – 3010P
coatings
—aggregates/fillers/fibres & – 3355P
—for glass, dicarboxylics & – 5250P
fibres
—road marking compsns (hot-melt) – 1871P
—thixotropic agents uses/properties – 2301
films, conductive polymers formation on – 9547P
flow control agents
—monocarboxylics capping – 1515P
—monocarboxylics-modified – 2312P
fluorinated, from phthalic (ring-fluorinated) – 931P
from bis(aminostyryl)pyridines – 9132
from cinnamates dimers, & photochemistry – 3286
from dimer acids
— 3136P
—synthesis/kinetics – 888
from dimer acids/polyether-urea diamines – 6509P
from fatty acids, water-bornes – 6565P
from lactams, of tetrahydropyran – 8125
from malonic compounds/diamines – 8135
from oxalic, stabilisers (light), piperidine compounds & – 7284P
from phenyl styryl ketone dimers, photochemistry – 2129
from phosphine oxides etc, imides (pendent) – 5965
heat-resistant coatings, polyesters & – 429P
heterocyclic groups (main chain) – 7350P
hydroxylated, from saccharic acids/homologues – 9163P
miscisbility, with polyethers, predictions etc – 6125
modified, alkoxylated amides groups, coatings – 446P
multilayered coatings, epoxies/ceramics & – 5801P
particles
—adhesion to surfaces from aq – 7003
—encapsulation by – 3173
phosphonate groups, fire etc resistance – 1836P
photosensitivity, diamines/acylated aminocarboxylics – 2156P
powder coatings
—& application – 7398
—adhesion, acrylics/phenolics & – 5034P
—electrochemical measurements – 9450
—epoxies in, manufacture/solvents use – 2568P
—powder manufacture/coatings structure etc – 9750
—sulphonamide condensates & – 4201P
powders, soft-feel coatings – 1869P
pressure-sensitive adhesives, acrylics & – 998P
primers, polyimides & – 3597P
solvent blends for – 3142P
sulphonated, from diphenyl compounds – 9138P
synthesis
—condensation polymerisation (solid-state) – 3184
—diamines/diacids salts, catalysts & – 8139P
—direct from diacids/diamines, activating agents – 9134
—from menthanediamine – 893
thermal degradation, cross-linking during – 9130
unsaturated
—adhesives (hot-melt) – 3378P
—from aminotriazines/unsatd diacids etc – 8130
—from polycarboxylics/active hydrogen/unsatd monocarboxylics – 2312P
—heterocyclics/cyclics in main chain – 604P
—phenylenediamine-type, thermal expansion coefficients – 6519P
water-bornes, fragrance & – 8214P
wire coatings
—equilibriation – 6768P
—equilibriation, polyesters/isocyanates & – 6769P
—solvolysis equilibration – 1821P
Polyamine-amides
coatings, isocyanates (blocked) & – 9630P
modified, curing agents, solventless coatings – 2564
Polyamines
bisphenols/amines units – 4332P
blocking of amino groups – 44
corrosion inhibitors – 8430P
cyclic, synthesis – 4954
from polyols/nitrohalobenzenes – 4113P
HPLC, derivatisation, reagents (polymer-bound) – 1206
hydroxylated, products, ethylene carbonate groups – 236P
maleimides/maleamic acids & – 7352P
modified
—adhesion promoters – 3379P
—by glycidyl (unsatd), photocurables – 7113P
—products, emulsifiers – 6534P
products
—with active CH esters – 4077P
—with isocyanates (blocked) – 4933P
—with ketones/aldehydes – 4979P

Polyamines *(continued)*
—with polyesters (unsatd) – 172P
—with polyphenols, curing agents – 1694P
sampling/determination, thioureas formation – 7674
suspensions, from polyamines/maleimides – 9155P
synthesis
—from isocyanates/catalysts – 2472P, 2473P
—isocyanates prepolymers hydrolysis, mild – 3299P
ultraviolet-curables, polyenes & – 607P
unsaturated, from polyamines/unsatd epoxy – 5758P
Polyaphrons
See also foams
Polybenzimidazoles
carboxylated, esters – 7349P
from bis(oxazolinone)s/tetramines – 6493
hydrogen bonding, FTIR/probes, & blends – 8632
solvent blends for – 3142P
sulphonated, by sultones reaction – 7348P
Polybenzodioxazoles
naphthalene units (main chain) – 181P
Polybenzothiazoles
synthesis, review – 3294
Polybenzoxazoles
fluorinated, synthesis, from bis(aminophenols), silyl route – 164
synthesis, review – 3294
Polybutadiene
air-drying compsns, diluents (reactive) – 6506P
amino, adhesives, isocyanates/polybutadiene (hydroxylated) & – 6599P
blends, with polymers, curing – 1530
coatings
—adhesion (wet) – 545
—diluents (reactive), polyols esterified by unsatd acids – 1493P
epoxidised
—reactions with surfaces – 4048
—synthesis, degradation presence phthalic – 3232
graft copolymers, photoresists – 1322P
graft copolymers (hydroxylated) – 1549P
grafting, with cyclohexyl methacrylate – 5709
hydrogenated
—organo-silicon groups, cross-linking – 4132P
—polyurethanes (hydroxylated) from – 9283P
hydrogenation, catalysts/bulk – 5680
hydroxylated
—adhesives, polyurethane-ureas – 6599P
—polyurethanes etc from – 4102
—polyurethanes from – 9284P
—polyurethanes from, anti-slip coatings – 466P
—polyurethanes, sealants – 5851P
—reaction ethylene copolymers (modified) – 5682
—reaction with diisocyanates, kinetics – 3282
interactions, with polystyrene, solutions – 6147
interpenetrating networks
—phase separation – 2358
—Tg/mechanical properties etc – 4021
maleinised, products with silanes, adhesion promoters – 4433P
modified
—acrylic/urethanes, photoresists – 4663P
—hydroboration/hydroxyl groups formation – 89
—microgels – 969P
—polyesters moieties/urethanes links – 8269P
—printing inks (lithographic) – 9305P
—products with fluoropolymers/polybutadienes (hydrogenated) – 4370P
particles, emulsion polymerisation presence – 4898
polyesters (unsatd) modified by – 5698
printing inks (lithographic) – 9305P
products, with carbenes from azo – 8074
sealers (radiation-curable)
— 3837P
—ultraviolet then curing – 3839P
vulcanisation – 4141
water-bornes, phenolics & – 231P
Polybutyl Acrylate
interpenetrating networks, viscoelasticity, fillers effects – 1192
Polybutyl Methacrylate
films, composite, titanates (hydrolysed) & – 9746
latices, surfaces, ESCA/SIMS – 3682
Polybutylene
adhesives (hot-melt)
— 6583
—butylene copolymers & – 9276P
blends, butylene copolymers/tackifiers & – 9258P
Polybutylene Terephthalate
powder coatings, polyesters &, blends – 4206P
Polycaprolactone
blends
—interactions/NMR studies – 1976
—Tg & – 2005
Polycaprolactone Polyols
coatings, epoxy esters/isocyanates (blocked) & – 3344P
epoxies/isocyanates (blocked) & – 4161P
polyurethane coatings (high-solids) – 209
polyurethanes, from active hydrogen & – 1018P
Polycarbodiimides
synthesis, soluble/self-emulsifiable products – 1633P
Polycarbonates
abrasion-resistant coatings, silica/carboxylates (unsatd) – 5979P
abrasion-resistant coatings for – 1845P
acrylates (polyfunctional) – 4937P
adhesives (hot-melt), butadiene copolymers/plasticisers & – 9257P
adhesives for, solvent blends/polymers – 3380P
aromatic, products with polyphenylene ethers, copolymers – 2428P
blends
—polyesters/pigments, transesterification resistance – 4930P
—polyesters/stabilisers, transesterification resistance – 4931P
—with acrylics, compatibility – 6476P
block copolymers, with siloxanes – 1110P
carbonates groups, cyclic/linking units – 867P
coatings for
—amino resins/polyesters – 1118P
—wear resistance, primers/topcoats – 1846P
copolymers, polyurethanes – 903P
end-capped, cumyl phenols – 1579P
epoxies modified by – 2426P
ethylene copolymers (carboxylated) & – 3257P
films
—coatings – 5973
—ultraviolet-curables for, coatings/inks over – 5430
flame retardants for, sulphonates/mechanisms – 1829
flame retardants/block copolymers & – 1110P
from ethylene carbonate/glycols – 5700
from nonanediols/methyloctanediols etc – 1585P

Polycarbonates *(continued)*
from triptycenes, adhesives modifiers – 8275P
hydroxylated
—polyurethanes from isocyanates & – 6512P
—synthesis, hydroxyl groups (terminal) – 7324P
interpenetrating networks – 8044
modified
—active hydrogen – 4069P
—benzoin ethers links, breaking/block copolymers from – 4629
mouldings, coatings, fluoropolymers – 1840P
oligomers (cyclic)
—polymerisation inhibitors for – 9107P
—stabilisers – 7325P
painting, stages/weather resistance etc – 5096
products, with epoxies/unsatd acids – 862P
synthesis, review – 3226
treatment
—plasma, nitrogen/ammonia – 4270
—with ion beams – 6650
ultraviolet-curables for
— 6227P
—acrylates/ultraviolet absorbers – 1308P, 1309P
—epoxy/acrylates, adhesion/FTIR etc – 2130
unsaturated, acrylates (polyfunctional) end groups – 9117P
Polycarboxylic Acids
amides (hydroxylated), thixotropic compsns – 2610P
products, with diisocyanates – 6516P
Polycell Ltd
filling compsns/marketing – 9942
Polychloroprene
adhesives
—acrylic modifiers – 994
—adhesion promoters – 5813
antifoulings, organo-tins degradation in – 2714
carboxylated, epoxies (toughened) – 844
stabilisers (ultraviolet), aminocyclohexenone derivatives – 793
Polychrome Chemicals
transfer, to Reichhold, & plants location etc – 689
Polydienes
epoxies/curing agents & – 9625P
epoxies/curing agents/adhesion promoters & – 9274P
hydroxylated, polyurethane compsns, compatibility – 5772P
modification, hydroboration/hydroxyl groups formation – 89
siloxanes groups – 4877P
Polyelectrolytes
adsorption, review – 2032
cationic, interactions with anions (hydrophobic) – 6051
MW, determination, methods – 1922
solutions – 1922
Polyenes
See also polythiol/polyenes
ultraviolet-curables, polyamines & – 607P
Polyepichlorohydrin
compatibility, with acrylics/glycidyl – 6883
modification, with potassium phthalimides/heterocyclics – 3808
products, with sulphonic salts (amino-functional) – 9179P
Polyester Acrylates
from carbonates diols – 8111P
from hydracrylic acid/polyhydracrylic acids etc – 3272P
from methylpentanediols or oxidation products thereof – 2431P
from tetrahydronaphthylsuccinic – 625P
from tetrahydronaphthylsuccinic acids (carboxylated) – 1318P
hydroxylated, products melamine resins – 8148P
products, with aminosilanes/isocyanates – 929P
radiation-curables, water-borne compsns – 3001
synthesis/radiation-curables – 2137P
water-bornes – 8200
Polyester Polyols
binders, polymethylene polyphenyl isocyanate & – 9151P
epoxy compounds/half-esters products – 4083P
synthesis, joint ventures – 4728
water-bornes, acrylics/amino resins & – 3357P
Polyester-amides
aromatic, aromatic/aliphatic units alternating – 897P
modified, from linseed oil/diethanolamine etc – 1613
solubility parameters – 1613
sulphonated
—printing inks (water-borne) – 4229P, 4230P, 9293P
—water-bornes, acetylacetonates – 1663P
synthesis, from polyesters/polyamides/glycols – 1632P
unsaturated, modified, by hydrocarbons, synthesis – 2475P
Polyester-imides
coil coatings, polyester-imides – 6814P
electrical insulation – 1103P
from diacids with preformed imido groups – 4109P
from diphenyl compounds/phthalimides – 6489
heat-curables, from phenolics (modified) – 896P
modified, by isocyanurates, synthesis/properties – 5736
wire coatings, removability during soldering – 9532P
Polyester-sulphones
coatings – 9504P
Polyester-urethanes
abrasion resistance – 6844P
adhesion promoters – 1119P
adhesives – 6844P
aliphatic, viscoelasticity/physical properties etc – 9743
carboxylated, photoresists – 6222P
coatings
— 9624P
—chip resistance – 1874P
—photoinitiation rates, unweathered/weathered – 411
dispersions (aq) – 6415P
electron microscopy, staining/microdomains – 1226
epoxidised, sealants – 8602
flexible coatings – 6843P, 6845P
from cycloaliphatics/polyesters – 173P
from diisocyanates (aromatic, ester-linked) – 6499
from polyesters from sucrose – 6844P
magnetic coatings, mechanical testing (dynamic) – 4473
magnetic pigments &, interactions/oxidation – 4536
microparticles (cross-linked), dispersions (aq) – 5787P

Polyester-urethanes *(continued)*
modified
—by lactones polymerisation – 9140P
—by lactones, heat-curables – 9201P
moisture-curables – 461P
photo-oxidation, rigid blocks concentration – 6496
primers, amino resins & – 463P
printing inks
— 1006P
—for plastics – 7435P
sulphonated
— 5842P
—recording materials (magnetic) – 5842P
synthesis, catalysts, imidazoles/diazabicyclooctane – 6498
thermal stability, carbon-carbon cross-links – 6495
unsaturated
—macromonomers, silicon-containing links – 6795P
—micropores/electron beam curing – 3792
—radiation-curables – 6243P
Polyesteramide-imides
from aminomethylcyclohexanemethanol – 902P
Polyesterification
See also esterification
catalysts
—amine hydrochlorides – 3233
—kinetics – 5721
—kinetics/equations – 2407
fumaric acid/adipic acid, modelling – 8096
Polyesters
See also epoxy/polyesters
acetoacetate groups – 2385
adhesives (hot-melt), moisture-curables – 5810
antimonates/glycidyl copolymers/brominated polystyrene & – 863P
antistatic coatings (radiation-curable) – 5429
aromatic
—bisphenols/phthalics, stabilisers & – 9094P
—from bisphenols – 4375P
—from diphenyl compounds/alkanediols – 9504P
—heat-resistant compsns, stabilisers & – 4945P
—miscibility, from hydroquinone/diacids, aralkyl groups – 4924P
—oxadiazoles groups (main chain) – 7339
—synthesis, dibromides/diols/carbon monoxide/catalysts – 9089
—synthesis, transesterification/catalysts – 2427P
—synthesis/properties, review – 3227
—wire coatings – 4375P
blends
—coatings, Tg/melamine proportion – 8542P
—electrical insulation – 1103P
—polyesters/pigments, transesterification resistance – 4930P
—polyesters/stabilisers, transesterification resistance – 4931P
—powder coatings, isocyanates (blocked) & – 984P
block copolymers
—polyethers-ketones & – 9090P
—synthesis – 4022
coatings
—amino resins & – 8558P
—amino resins &, N at surfaces – 8628
—chip resistance, polyethers/amino resins & – 1140P
—cyclohexanedimethanol polyesters/amino resins & – 4434P
—for glass, dicarboxylics & – 5250P
—melamines &, hard coatings over – 9618P
—spraying/emissions scrubbing – 4287P
—substrates/fillers surfaces effects – 7487
coatings etc, for cans, deformation tolerance – 3572
coatings for, polyamides (modified) – 446P
coil coatings, waxes in lower – 4156P
cross-linked, synthesis – 9248P
cross-linking – 4013
dispersions (aq), polyurethanes & – 4228P
end groups, Raman spectroscopy (Fourier transform) – 8616
films, coatings – 5973
films (orientated), coatings, polyamides (modified) – 446P
fluorinated, from phthalic (ring-fluorinated) – 930P
from acrylates/hydrogen-chloride – 5751
from chlorendic acid, chemical resistance – 8419
from cyclohexane compounds – 9600P
from diacids/glycols/hydroxymethylbenzoic – 9108P
from dicyclopentadiene derivatives, coatings – 6469P
from dimer acids – 3136P
from glycidyl esters (branched) etc – 8094
from malic acid, synthesis/hydrolysis – 9084
from norbornenecarboxylic acids (substituted) – 4072P
from stilbene/hexanediols – 9105P
from styrylpyridine-based diols – 1294
functional groups, corrosion inhibitors – 1791P
gelation, viscoelasticity/dynamic scaling – 8598
graft copolymers, powder coatings – 5035P
health & safety – 9773
high-solids coatings
— 208
—MWD (narrower)/residuals avoidance – 2415
—water resistance – 5003P
impregnation varnishes, sulphonic acids/dessicants & – 8477P
interpenetrating networks, acrylates systems & – 8604
liquid crystals
—recording materials – 281
—synthesis/properties – 8097
liquid crystals groups – 4167P
metallisation, bonding to paper – 5039
modified
—adhesives, isocyanates & – 4222P
—by acrylics/polyols – 9247P
—by fatty (branched)/lactones – 141P
—by polyethers – 9110P
—coatings, printability – 9629P
—from diols/diacids/triazines – 1588P
—powder coatings, polyisocyanates & – 9247P
—water-bornes, printability – 9628P
overstoving, melamine resins &, softening – 9642
painting, lines – 5862
polymerisation presence, acrylates (fluorinated) – 1600P
powder coatings from
—amines (hindered)/spiro groups & – 1686P
—fast curing/low temp/durability – 7404
—flexibility – 3364P
—for ceramics – 259P
—for steel (zinc-coated) – 6725
—glycidyl copolymers & – 5798P

Polyesters *(continued)*
—glycidyl copolymers/isocyanates/chelates/phosphates – 5800P
—glycidyl esters & – 4204P
—manufacture by dissolution – 3365P
—manufacture, resins/pigments mixing – 1030P
—polyesters/glycidol products – 1684P
—polyesters/polybutylene terephthalate blends – 4206P
—resins synthesis/marketing, companies – 3061
—synthesis – 9248P
powders
—explosions, explosive potential – 2112
—manufacture by dissolution – 3365P
pretreatment, plasma polymerisation – 8348
products
—with acrylics, powder coatings – 1688P
—with polyesters, water-bornes – 964P
—with polyethyleneimines, dispersants (polymeric) – 1513P
proprietary – 8045
raw materials/synthesis/properties/applications etc – 7314
reaction, with amines, aminolysis, presence water – 848
sealants, epoxies &, mechanical properties – 8602
silicone-modified
—analysis – 1208
—GC, diacids/polyols determination – 9684
—properties – 8018
—weathering, radicals trapping/ESR – 9455
siloxane-modified, heat-curables, silanes/titanates etc & – 2527P
silyl groups
—from unsatd/Si-H, & moisture-curables – 2501P
—zirconates & – 9598P
sulphonated
—printing inks (water-borne) – 4229P, 4230P, 9293P
—water-bornes, acetylacetonates – 1663P
synthesis
—condensation polymerisation (solid-state) – 3184
—from isophthalic, presence acids – 9109P
—joint ventures – 7867
—methods/reactions/catalysts, review – 3239
—MWD (narrow)/high-solids coatings – 9116P
—plants (planned), Goa – 6297
—polyesters/epoxy compounds/acids – 9123P
—presence phosphorus compounds, adhesion – 3265P
synthesis/curing, chemistry – 7313
thermogravimetry, FTIR & GC/FTIR & – 7691
thioethers groups (pendent), synthesis – 8159
titanium dioxide &, dispersion – 4835P
transesterification, blends/neutron scattering/equations – 6122
wastes
—depolymerisation, polyesters (unsatd) from – 2840
—transesterification with polyesters, coatings – 1280P
water-bornes
—acrylics (carboxylated) & – 9237P
—silicones & printability – 245P
water-soluble, products with polyesters (hydrophobic) – 964P
weathering, radicals trapping/ESR – 9455
Polyesters, Carboxylated
hydroxylated, hydroxyl/carboxyl by infrared – 526
powder coatings
—acrylics (carboxylated) & – 4205P
—amides (hydroxylated) & – 5802P
Polyesters, Hydroxylated
blends
—over electrocoating, isocyanates & – 9599P
—powder coatings, isocyanates (blocked) & – 8240P
coatings
—for plastics, amino resins & – 1118P
—MWD effects – 7309
—polymers (hydroxylic)/melamine resins & – 9600P
—polymers reactive with & – 9617P
cured, ageing at thirty deg C, properties & – 1892
formulation, calculations/equations – 2396
modified, by hydroxybenzoic, synthesis/coatings – 2414
plasticisers, migration resistance – 4249P
products
—with acrylics (hydroxylated) – 6832P
—with acrylics, coatings – 6012P
—with acrylics, polyurethane coatings – 6542P
—with polyesters wastes – 1280P
synthesis
—dibromodecanes/hydroxydicarboxylics – 4915
—distillation columns simulation – 2389
Polyesters, Unsaturated
allyl groups
—coatings – 2775P
—styrene-free – 8200
benzyldimethylamine/derivatives/amines & – 1827P
bicycloheptene (chlorinated) units, pyrolysis products – 2413
blends, heat-curables – 5724P
coatings
—amino resins/polyols over – 2771P
—for aluminium, amino resins & – 7626P
—for concrete (modified), pipes – 3491P
—furniture (wooden) – 1852
—hardness/time – 4468
—wet-on-wet, on electrocoating – 402P
copolymers (hydroxylated), polyisocyanates & – 9484P
cross-linked, particles/vesicles – 7965P
cross-linking, monitoring, FTIR (photoacoustic) – 6057
curing
—kinetics/models/DSC – 2928
—monitoring/morphology etc – 1568
—monitoring/pressure/temp – 7320
—styrene (residual) – 1563
—temp (ambient), initiators/degree of cure – 6449
cyclohexenedicarboxylic anhydride units, coatings – 2775P
emulsion polymerisation, monomers/polymeric emulsifiers – 4037
epoxies/hydrolysed lignin etc & – 145P
filling compsns, railway stock – 1778
filling compsns (ultraviolet-curable) – 9883P
flame retardants, comparison – 6780
from bis(hydroxyalkyl) esters – 6457P
from bisphenols (halogenated)/phenolphthalein – 8082
from diacids (trans) etc – 137P
from glycols, trace components effects/side reactions – 6440

Polyesters, Unsaturated *(continued)*
from methylenedioxepenes, vinyl (pendent) – 4035
from norbornenedicarboxylic acids etc – 3820P
from polyesters (hydroxylated)/unsatd acids etc – 7626P
from polyesters wastes, mechanical properties – 2840
gel coats
—blistering/formulation & – 6807
—in-mould, styrene/acrylates & – 5201P
grafting, with acrylates (alkoxylated) – 4182P
inhibitors
—nitrophenols/quinone, polyesters properties & – 8089
—phenothiazine – 8104P
inhibitors (polymerisation), review – 2398
interpenetrating networks, curing – 81
intumescent coatings, ammonium polyphosphate viscosity/gel time etc – 5964
macromonomers, copolymers fluoro-olefins – 8120P
marble effects, silamethylene silanes/ground brick & – 8524P
modified
—by alkyleneimines (hydroxylated) – 4668P
—by dicyclopentadiene – 154P
—by hydrocarbons, synthesis – 2475P
—by polybutadiene, curing/NMR – 5698
—by urethane prepolymers – 1690
—elastomers segments bonded to – 1592P
mouldings compsns, epoxies &, composites with metals – 6742P
odours, agents against – 1512P
photo-oxidation – 4916
pigment compsns – 132P
products
—with alkanolamines, ultraviolet-curables – 2167P
—with polyamines – 172P
reaction
—presence isocyanates/polycaprolactone – 1234
—with styrene, DSC/FTIR – 1234
swelling, NMR – 2871, 2872
synthesis
—business transfer – 6304
—business transfers – 5534
—joint ventures/plants (planned) – 8841
—kinetics/modelling – 8096
—kinetics/models/equations, catalysts – 2407
—monitoring – 2407
—plants (planned), Saudi Arabia – 3887
synthesis/thickening/cross-linking/properties/uses – 3229
thermal degradation, thermodynamic data relevant to – 4911
thermal stability/mechanisms, factors/mechanisms – 5693
ultraviolet curing, parameters effects – 1290
ultraviolet-curables
— 3820P
—polyols/isocyanates & – 626P
unsaturation (terminal)
—diluents (reactive) & – 2141P
—from diols (cycloaliphatic) etc – 1614P
water-bornes
— 8200
—modification for – 2395
yellowing – 4916

Polyesterurethane-ureas
coatings, chip resistance – 460P

Polyether Polyols
synthesis, businesses transfer – 4720

Polyether-amides
adhesives (hot-melt) – 5809
aromatic
—coatings for semiconductors – 2781P
—synthesis/heat resistance etc – 9166P
fluorinated, diphenylhexafluoroethane groups – 8142P
hydroxylated, from acetals (cyclic), urethanes from – 4962P
imides groups (pendent), cross-linkable – 7345P
segmented, mechanical properties – 5809

Polyether-amines
amino groups (terminal, alkoxylated) – 911P
coatings, isocyanates (blocked) & – 4116P
from quinone/resorcinol derivatives – 5740
hydroxylated, polymerisation presence, polyols by – 3298P
modified, curing agents – 911P
polyethers/amino end groups, synthesis – 9153P
products
—with diacids/triacids etc – 7332P
—with diisocyanates – 7354P
—with formaldehyde – 9139P

Polyether-esters
block copolymers, analysis, pyrolysis/GC – 6095
coatings, chip resistance, amino resins & – 458P
dyes (bound) – 7247P
fluorinated, synthesis, from orthoesters (spiro type) – 6459P
hydroxylated, & synthesis/urethanes from – 869P
sulphonated
—synthesis/surfactants from – 53
—water-bornes, amino resins & – 3353P
synthesis/heat-curables – 9110P

Polyether-imides
aromatic
—from bis(aminophenoxy)diphenyls – 9609P
—heat-resistant coatings – 9609P
—transparency/heat resistance – 177P
—wire coatings – 9537P
—wire coatings, fluoropolymers & – 9536P
block copolymers, polysulphides & – 927P
coatings, fluoropolymers & – 6775P
colour, origin/spectroscopy – 2855
epoxies (toughened) – 6035
from aminophenyl ethers of diphenyls – 1700P
from diphenyl sulphones, aminophenoxyphenoxy groups – 8279P
from hydroxyisophthalic/polyphenyl diols etc structurally – 1627P
treatment, plasma, surface energy/adhesives & – 6644

Polyether-ketones
aromatic
—from benzophenones/hydroquinone/aromatics – 853P
—synthesis, chemical resistance etc – 8099P
—synthesis, monomer systems for – 875P
block copolymers, polyesters & – 9090P
copolymers, polyether-ketone-sulphones, NMR – 502
from bisphenols (methylenes spaced)/ketones (aromatic) – 5708
ordered – 7323P
pyridine groups (main chain) – 1560

Polyether-ketones *(continued)*
synthesis
—diacids (aromatic)/phenoxybenzoyl, presence sulphonic etc – 9106P
—from bisphenols, presence various – 1572P
—MW advancement control additives addition – 1571P
synthesis/properties, review – 3242
undercoats, polysulphones/thermosetting resins & – 6838P
Polyether-sulphones
aromatic
— 3320P
—blends/rheology – 7362P
electrical insulation, thermosetting resins & – 1105P
epoxies &, curing/phase separation – 7319
heat-resistant coatings, fluoropolymers & – 1872P
NMR (carbon-13), transetherification & – 502
powder coatings
—for steel (chromium-containing) – 262P
—for steel (metal-coated) – 260P
—over primers on steel – 261P
pyridine groups (main chain) – 1560
undercoats, polyketones/thermosetting resins & – 6838P
Polyether-ureas
diamines, products with dimer acids – 6509P
from polytetrahydrofuran – 8091
Polyether-urethanes
adhesion, to glass, length between cross-links – 5262
adhesives (hot-melt), styrene oligomers & – 2574P
coatings – 9624P
cracking resistance, curing & – 1626P
curing, presence diamine salt complexes/glycerol – 1626P
curing agents, for epoxies, amines/flexibility & – 6443
filler surfacer compsns, water-bornes – 1664P
fluorinated, transparency, from amines etc – 4963P
from polytetrahydrofuran – 8091
hydrocarbons (aliphatic) incorporation – 7346P
hydrolysis – 8124
interactions, with urea, films properties – 1887
ionomers, emulsification effects/films properties – 2446
mechanical properties (dynamic)/hydrogen bonding etc/structure – 2464
modified, by fatty, emulsifiers – 7347P
moisture-curables – 461P
networks, simulation – 5743
prepolymers, coatings, alkyds & – 8383
segmented, phase separation – 5747
stabilisers (bound), polyurethane coatings containing – 4178P
surfaces, ESCA/SIMS – 1953
synthesis, & levelling agents use – 1617P
unsaturated
—adhesives (radiation-curable), mercaptans & – 5470P
—radiation-curables – 6243P
viscoelasticity, polymers (linear) pairs & – 6874
Polyetheramide-imides
solutions, polymers particles in, thixotropy – 7434P
Polyetheramine-amides
coatings, isocyanates (blocked) & – 9630P
polyurethane coatings (one-component) – 6842P
synthesis/uses – 7353P
Polyetherester-amides
powder coatings, sulphonamides condensates & – 4201P
sulphonated, water-bornes, amino resins & – 3353P
Polyetherester-amines
coatings, isocyanates (blocked) & – 9630P
polyurethane coatings (one-component) – 6842P
Polyetherester-urethanes
– 869P
Polyethers
acrylates
—acrylonitrile copolymers, photoresists – 6216P
—products with melamine – 6220P
—radiation-curables – 635P
amino groups (terminal)
—diisocyanates & – 180P
—isocyanates (blocked) & – 4116P
aromatic
—aliphatic moieties, synthesis – 3244P
—coatings for metals, adhesion – 2777P
—from halobenzene/hydroquinone/bisphenols – 2420P
—from pyridine (fluorinated)/diols (silylated) – 1560
—synthesis from chlorinated/hydroxylated compounds – 8110P
bis(diene ether) terminated, products other – 1597P
block copolymers, synthesis – 4022
branched, acrylates, emulsifiers (unsatd) – 9035P
coatings
—after phosphonic acids treatment – 2642P
—polyesters/amino resins & – 1140P
—volatiles partial replacement by – 6402P
copolymers, with siloxanes, review – 7283
degradation, metals contact, prevention – 873P
epoxy groups, polymerisation monomers presence – 4941P
fluorinated
—groups, titanoxanes (cyclic) – 9180P
—macromonomers, polymers/release coatings – 9607P
—stone treatment – 8412
—structure/viscosity/thermo-oxidation – 882
from tetrahydrofuran/oxetanes – 138P
halogenated, from bisphenols – 1604P
hydroxylated
—methacrylates of, synthesis – 4076P
—products urethanes (unsatd) – 7814P
isocyanates &, secondary hydroxyl only – 5754P
maleimides-terminated, product others – 1597P
modified, by fatty acids, diluents (reactive) – 941
organo-silicon groups, moisture-curables – 6540P
photoresists – 7103P
printing inks (lithographic)
— 9299P, 9301P
—as additives – 6603P
printing inks (water-borne) – 4230P
products, with polyesters – 9110P
radiation &, degradation/cross-linking – 3002
radiation-curables, diluents (reactive) & – 2144P
synthesis
—from bisphenols, presence various – 1572P
—from cyclohexene oxide – 8117P

Polyethers *(continued)*
unsaturated
—curables, unsatd compounds etc & – 861P
—photoresists – 8777P
ureido groups, adhesives (epoxy) – 1001P
Polyethyl Acrylate
interpenetrating networks, properties – 3292
Polyethylene
adhesives for, failure surfaces, SIMS – 2847
antioxidants, ultraviolet radiation effects – 8019
barrier coatings, plasticisers & – 7610P
branched, MWD/branching by GPC – 5295
chlorinated
—anticorrosives, acrylics & – 1762
—blends with vinyl acetate copolymers – 6121
—blends, graft copolymers & – 6487P
—coatings, acrylics & – 381
—from high-/low-density blends – 6486P
—miscibility, polymers (various) & – 8675
—particles, characterisation – 2921
chlorosulphonated
—chlorinated, resists – 619P
—coatings, complexes/aluminium etc & – 7562P
—combustion products, corrosion – 3775
coatings, tubes, adhesion loss – 4458
coatings for, agriculture – 7593
cross-linking, electron beams/gel content determination – 9659
films
—by ionised-cluster beam deposition – 2247
—stabilisers – 9027
—surfaces fluorination – 4901
graft copolymers, polyethylene (chlorinated) & – 6487P
grafting
—with acrylic acid – 99
—with glycidyl, then amines reaction – 6629
high-density
—from fluoropolymers – 1598
—synthesis wastes, adhesives – 9288P
low density, inks, polyethylene (low MW) etc & – 8305P
low-density
—biodegradation/ultraviolet before – 409
—wire coatings, application – 2636
oxidised, products with chlorosilanes – 8438P
particles, encapsulation by polyamides – 3173
photo-crosslinking – 1296, 9845
pipeline coatings
— 9439
—defects/corrosion/moisture – 5151
powder coatings, manufacture, plants (China) – 4254
pretreatment, permanganates/acids, adhesives & – 9349
printing inks (water-borne) for – 9292
solutions, enthalpies – 2571
surfaces
—functionalisation, oligomers coprecipitation – 5660
—modification/polarity/ionisation – 1247
thermal degradation, processing & – 4567
thixotropic agents, uses/properties – 2301
treatment
—corona discharge, peroxides groups/grafting – 3442
—plasma, fluorination, non-polymerisables/polymerisables – 2330
Polyethylene Glycols
acrylates
—copolymerisation, solvent effects/gel point – 5712
—diluents (reactive), adhesives (cyanoacrylate) – 997P
—macromonomers, copolymers/viscoelasticity – 498
allyl ethers, copolymers, pigments coated with – 5631P
blends, dextran &, aq, phase behaviour – 2018
derivatives, emulsifiers/anti-foaming agents – 807P
ethers
—scrubbing with – 4621
—with glycolic acid, polymerisation presence – 4056
linoleates, mono-/di-mixtures, NMR determination – 530
liquid chromatography, detectors, density – 7694
miscibility, with polyamides, predictions etc – 6125
monoethers, GC (inverse) – 6072
photopolymerisation (template) on – 112
rheology, polyethers/cellulose ethers/MW & – 2832
viscosity (intrinsic), temp/minima – 4470
Polyethylene Terephthalate
modified, by neopentyl glycol, powder coatings – 3364P
surfaces, oligomers (cyclic) at – 1217
wastes, depolymerisation, polyesters (unsatd) from – 2840
Polyethylene Waxes
additives/incorporation/properties – 8012
adhesives (hot-melt) – 9253
Polyethyleneimine
acetylated, silyl-terminated, silica gel modification – 7275
kaolin modified by – 8241P
products, with polyesters, dispersants (polymeric) – 1513P
substituted, hydrogels, synthesis/cross-linking – 5735
Polyglycerols
alkoxylated, lubricants, inks (water-borne) – 3408P
synthesis – 4927P
Polyimides
adhesion, to polyimides, swelling lower/diffusion (inter-) – 8599
adhesives (conductive) – 6584
aromatic
—adhesives (heat-resistant) – 9264P
—blends, heat-resistant coatings – 2478P
—compatibility with epoxies – 909P
—flexibility – 904P
—from benzhydrols, endomethylenete-trahydrophthalimide ends – 2474P
—from diphenyl sulphones etc – 8147P
—from diphenylpropane derivatives – 4157P
—hydrogenated naphthalenedicarboxylic imide type structures – 909P
blends, with fluoropolymers particles – 6132
blocked
—by methylol, acetals/ketals moieties – 7099P
—photocurables – 7099P
coatings
—adhesion/surface energy/disbonding (self-) – 3729
—bond strength determination – 495

Polyimides *(continued)*
—optical fibres, gamma-rays effects – 8594
coatings for, siloxanes copolymers – 4419
curing, volatiles identification – 9251
cyano groups, synthesis/heat-resistant coatings – 2772P
dielectric constant, reduction/structure – 5335
electrocoating (non-aq) – 942
films
—conductivity (electrical), ion beams treatment – 4097
—conductivity (surface)/cobalt/extraction – 2458
—formation presence cobalt compounds, extraction – 2458
—hydrolysis, kinetics/mechanisms – 5746
fluorescence spectra, molecular aggregation & – 6916
fluorinated
—anthracene groups, extension tetrahydroanthracenes (ether-bridged) – 3289
—cyclopentenylsuccinic units – 5760P
—dielectric constant – 5335
—dielectric constant (reduced) – 6132
—dielectric constant, reduction by diamic – 5336
—from diphenylethane dicarboxylic anhydrides – 9141P
—from diphenylmethane (fluorinated) – 3322P, 3322P
—solubility/transparency – 9141P
from aminophenylimidazoles – 2477P
from aniline-formaldehyde/tetra-acids – 4960P
from benzhydrols, synthesis/properties/use/imidisation (full) – 890
from bis(aminostyryl)pyridines – 9132
from diamines, phenylenes/oligophenylenes, both – 9159P
from diaminodiphenyl disulphides etc – 8132
from diphenyl compounds/phthalimides – 6489
from diphenyl sulphones, aminophenoxyphenoxy groups – 8279P
from diphenyl sulphones/aromatic (thio)ether diamines – 1628P
from indane, heat resistance/solubility/properties – 3296
from phosphine oxides etc, imides (pendent/main chain) – 5965
from polyamic acids blends – 5737
from pyromellitic dianhydride/hexaazatriphenylene trianhydrides – 8126
from siloxanes (amino-functional)/dianhydrides – 921
from toluene diisocyanate etc, properties – 6497
functional groups, products epoxy compounds – 8146P
heat resistance, polyamic synthesis for – 1631P
hydrogen bonding, FTIR/probes, & blends – 8632
hydrolysis, FTIR – 6093
hydroxylated – 9161P
imidisation monitoring, probes – 890
modified
—by amines, electrocoating – 9228P
—by amines, photosensitive compsns – 9898P
—by piperazine, electrocoating (cathodic) – 5780
—from anhydrides/benzylidenelactones – 4098
oligomers, undercoats, silanes & – 6021P
pattern generation – 7073
photocurables, azides (org) & – 9851P
photosensitivity, pendent groups – 1315P
polyamic acids synthesis, solvents – 2479P
precursors, curing monitoring – 1199
primers
—for powder coatings – 4437P
—polyamides & – 3597P
silicone-modified
—flame-retardant coatings – 6771P
—synthesis/coatings – 8166P
siloxane-modified, isoindoloquinazolinediones groups – 2499P
siloxanes groups (main chain)
— 2500P, 2502P
—oxygen (atomic) resistance – 4419
—properties – 6995
—synthesis/coatings – 2495P
—synthesis/properties – 8653
soluble
—compatibility with epoxies – 4970P
—from diaminocyclohexanes/fatty acids (polymerised) – 7355P
—from isophorone compounds – 4372P
—in basic, thermal insolubilisation – 9144P
sulphides links, cleavage/regeneration – 8132
sulphones groups, pre-imidised, coatings – 9631P
synthesis
—imidisation monitoring, infrared spectroscopy – 5298
—polyamic acids imidisation kinetics etc – 5749
—presence amines against diamines/polyamide acids ionic bonding – 9145P
—review – 3294
synthesis/uses, review – 2447
thermosetting
—developments/materials, review – 892
—synthesis, review – 3294
thin films, swelling/diffusion, interferometry – 6162
transparent coatings, semiconductors – 4444P
unsaturated
—curing agents from – 9061P
—from aminotriazines/unsatd diacids etc – 8130
wire coatings – 4429P

Polyisobutene
grafting, on silica – 2263
modified
—reaction siloxanes Si-H – 9178P
—reaction with acrylates (amino), networks – 837
properties/adhesives – 8251
rheology, in rheometers (cone/plate) – 8606
silyl groups, moisture-curables, antioxidants & – 4163P
synthesis, plants (Brazilian) – 3886
unsaturated, acrylate groups, ultraviolet-curables – 7077
viscosity, MW superposition plots – 1182

Polyisocyanates
acrylics/silyl groups & – 6797P
allophanate groups, synthesis/catalysts/stability – 1616P
biuret groups, from diisocyanates, processes – 1618P
blends, polyisocyanurate/biuret groups – 4114P
coatings (two-component), acrylics (hydroxylated)/acrylics & – 1650P
dispersions
—in polyols/polyamines, surfaces blocking – 9137P
—macromonomers polymers & – 4115P
fluorinated, functionality (high), synthesis – 5757P
from diacid chlorides/silylated hydroxylated isocyanates – 8138P

Polyisocyanates *(continued)*
from methacroyl isocyanate – 4096
isocyanurate groups
—synthesis presence amines/epoxy – 4967P
—synthesis/catalysts – 4961P
modification, allophanates groups – 6517P
modified
—particles (fine) via emulsions – 171P
—synthesis, plants – 3067
polyesters (unsatd)/monomers & – 137P
powder coatings, vinyl alcohol copolymers & – 263P
products
—dispersants (polymeric) – 63P
—thixotropic agents – 1510P
—with alkanolamines, polyols media – 3246P
—with aminosilanes – 8316P
—with siloxanes – 4130P
—with siloxanes (cyclic) – 1798P
purification, isocyanates (free) removal – 9164P
reaction, with polycarboxylics, catalysts – 4968P
self-emulsification, dispersions (aq) – 9149P
water-bornes, emulsifiers for, urethanes – 8209P
Polyisocyanates, Blocked
cross-linking agents, Mannich bases & – 8208P
electrocoating (cathodic), epoxies & – 225P
from pyridine derivatives – 6510P
heat-curables, epoxy/polyesters & – 939P
products, with amide acetals (cyclic) – 4107P
Polyisocyanurates
modified, from silicones/isocyanates etc – 1630P
Polyisoimides
photoresists – 3833P
unsaturated, curing agents from – 9061P
Polyisoprene
grafting, with vinyl ketones, conditions/kinetics – 2388
hydrogenated, partially, hydroxyl groups/epoxidation – 9111P
modified, hydroboration/hydroxyl groups formation – 89
synthesis, reactors series/single condensers – 5690P
vulcanisation – 4141
Polyketones
cyanates groups, bismaleimides & – 6521P
from methylenetrioxaspirononanes – 1562
synthesis, from trichloromethyl ketone/acyl – 129P
Polylactones
acrylates, carboxyl-terminated – 3274P
macromonomers – 4932P
unsaturated, from lactones polymerisation/acid chlorides – 2432P
Polymerisation
See also anionic, cationic, condensation, dispersion, emulsion, free-radical, glow discharge, plasma & suspension polymerisation, electropolymerisation, gamma-rays, photopolymerisation, radiation, initiators, inhibitors & photoinitiators
acetylene, review – 3204
acetylenes, review – 3207
acrylics, modelling – 4148
aqueous media, book chapters/review – 2338
books
— 3092
—reviews collections – 3949
catalysts
—olefins, mechanisms/active sites, review – 3214
—Ziegler-Natta/tacticity, review – 3206
—Ziegler-Natta/transition metals, review – 3215
continuous processes
—initiators (polyfunctional) &, MW – 9058
—reactors (stirred)/conditions prediction/troubleshooting etc – 1523
—reactors (stirred)/product parameters calculation – 1555
developments/forecasts – 83
DSC – 4543
emulsifier-free, aq phase, nucleation, modelling – 5669
ethylene carbonate/glycols – 5700
experimental methods (general) – 2359
fatty acids, two-stage – 2278P
gel effect, modelling/simulation, non-isothermal – 1556
gelation, theory, review – 3190
group transfer
—acrylates, kinetics/mechanisms/MWD – 4043
—acrylates, reactivity ratios – 6434
—acrylates/kinetics, catalysts effects – 4046
—acrylic monomers, polymers (star) – 6466P
—acrylonitrile, initiators, organo-titanium – 6491
—catalysts, mercuric iodide – 4042
—conditions/mechanisms/monomers/tacticity etc – 85
—enolate in monomers/initiators – 6465P
—esters (unsatd)/lactones (unsatd) – 4047
—initiators (difunctional), ladders from – 4059
—initiators (difunctional), synthesis/uses – 4008
—initiators (polyfunctional), block copolymers – 852
—initiators (unsatd), macromonomers from – 4008
—initiators, crown ethers/salts – 6428
—initiators, organo-silicons (various) – 4047
—initiators, organo-silicons, catalysts & – 865P
—initiators/co-catalysts/aminosilanes – 824P
—polymers (living, difunctional) – 7293P
—polymers (star) arms – 4071P
—polymers (star)/microparticles – 5000P
—products acylation/telechelic diols synthesis – 4041
—reactors – 4046
—review – 3193
—scavengers removing hydroxyl – 4892P
—silane ketene acetals isomerisation – 4039
—termination, mechanisms/cyclisation – 5695
in clathrates, review – 3167
inhibition, methyl methacrylate synthesis – 3983
inhibitors
—adhesives (cyanoacrylate) – 5052P
—hydrogen peroxide, termination & – 2983
—hydroxylamines/phenylenediamines – 4064P
—maleic anhydride &, mechanisms – 103
—polycarbonates cyclic oligomers & – 9107P
—polyesters (unsatd) &, review – 2398
interfacial, features/use, review – 3176
kinetics, methods, review – 2360
living
—'immortal', porphyrin-based initiators – 2340
—acetylenes (chlorinated) – 159
—vinyl ethers – 2393
—vinyl isobutyl ether – 5678
metathesis
—catalysts/rate modifiers – 4902P
—cyclooctatetraene – 2376
—monomers (various) situation, review – 3208
—norbornenes/norbornenes-terminated macromonomers – 5684

Polymerisation *(continued)*
—review – 3202
methyl methacrylate, around pigments/surfactants – 2329
micelles – 3168
microemulsions
— 3163, 3168
—acrylamide/salts effects – 1249
—porous materials from – 816
—siloxanes (cyclic) – 9176P
—styrene, comonomers stabilisers – 8048
miniemulsions, contrast with emulsion – 5666
modelling/computer simulation/residual monomers – 1537
precipitation, occulusion theory/features/examples/living – 3172
presence ammonium hydroxide – 6590P
presence polyethers/glycolic acid ethers – 4056
presence polyurethanes – 6566P
presence titanium compounds – 8210P
process control, automation/implementation – 1535
reactors
—control/estimation, review – 78
—factors/stability/safety/selectively – 2354
—gel effect/modelling – 4055
—modelling final stages – 1534
—on-line measurements/predictions – 839
—tubular, wall flow, monomers (water-soluble) – 1545P
—wall build-up control – 5995P
—wall build-up prevention – 827P
reactors (tubular), modelling – 1536
reversible – 2346
ring-opening
—acetals (cyclic), review – 2400
—copolymerisation – 2514
—cyclic compounds formation – 2351
—dicyclopentadiene – 3590P
—epoxy compounds/episulphides – 2383
—esters (cyclic), review – 2401
—ethers (cyclic), review – 2399
—free-radical, monomers types/review – 2319
—heterocyclics (nitrogen-containing), review – 2449
—lactams, review – 2461
—lactones, kinetics/review – 2394
—methylene compounds/spiro compounds – 2318
—methylenedioxepenes – 4035
—orthoesters, initiators – 2412
—oxazolidinediones, review – 2451
—reactions/kinetics – 2337
—simultaneous main chain addition polymerisation – 3260P
—stereospecificity, review – 2411
—sulphides (cyclic) – 2488
—thermodynamics – 2350
—thermodynamics/initiators etc, review – 2362
semi-batch processes, control, adaptive predictive – 80
semi-continuous processes, reactors/temp control/algorithms – 1527
solid-state
—acetylenes (difunctional), review – 3203
—review – 3160
solvents recovery, computers – 1524
stages/equilibria/thermodynamics/microstructure/networks etc – 2331
step
—addition/condensation/characteristics etc – 3182
—books – 3950
—kinetics, unequal reactivities, review – 3178
—kintics/degree of polymerisation/reactions – 3177
—MWD, theory – 3180
step-growth, MWD, theory – 9051
styrene, in region bilayers on oxides – 2255
template, review – 2361
thermal
—book chapters – 2345
—inhibitors, diamines – 1539
—initiators &, kinetics – 5662
—main chains, simultaneous side chains ring opening – 3260P
vinyl acetate, inhibition periods/pressure – 117
volume changes, none/expansion – 2318

Polymers
See also resins, hydroxylic polymers & thermoplastic(s) entries
absorption, penetrants, &'effects on others – 8654
adhesion
—mechanisms/review – 1258
—to metals, chemical aspects – 2825
adhesion to, water, work of – 6982
adsorption
—conformations, surface geometry/fractals – 9735
—forces between surfaces/concentrations – 4563
—free ends, polymer brushes theory – 6143
—from solutions, surfaces curvature/roughness – 538
—modelling/flow – 8664, 8665
—on mica, torsion microbalances – 2934
—on particles, particles interactions – 8677
—on pores, flow through/shear thickening – 4457
—on rough, theory – 6123
—review – 2032
—theory – 4560, 8689
analysis
—books – 8957
—methods/details, books – 10003
biodegradation
—biological environments – 4364
—review – 4359
birefringence (flow) – 1886
blends
—compatibility incomplete, laminates using – 3615P
—compatibility, surfactants (polymeric) – 9023
—expert systems – 9047
—interactions, NMR studies – 1976
—interface distribution functions – 6908
—manufacture/properties/equations etc – 1538
—NMR (solid-state) – 2887
—permeability/morphology/dispersed phases – 8701
—positronium annihilation – 6092
—rheology (oscillatory) – 4466
—Tg – 2005
—thermodynamics/phase behaviour/factors – 5325
—wetting by, theory/transitions – 7710
—X-ray scattering (small-angle) – 6908
blends/mixing/processing, book chapters – 5598
books – 5598
branched
—branching determination – 7686
—GPC/light scattering (small-angle) – 5287
—GPC/viscometry, MW – 1903

Polymers *(continued)*
—light scattering/GPC/viscometry – 2002
—MWD/branching by GPC – 5295
—unsatd, synthesis/curables – 4923P
brominated, N-halogen bonds, synthesis/coatings – 4093P
cationic, synthesis, initiators, azo/amidine groups – 828P
characterisation
—books – 2236
—methods/review – 7688
—review/developments, books – 5602
chlorinated
—blends, Tg & – 2005
—chalking resistance etc, copper compounds – 8431P
—coatings for wood – 9524P
—coatings, acid release/no pretreatment – 9548P
—miscibility – 8675
—N-halogen bonds, synthesis/coatings – 4093P
—solvents removal from – 4092P
chromatography
—cross-fractionation – 1941
—dispersion correction – 1956
chromatography (supercritical fluid) – 3648
comb
—compatibilisers for polymers – 797
—resists – 594
combustion, products, toxic gases, tests – 8717
compatibility, techniques for studying – 2875
conductivity (electrical)
—ionic, review – 2029
—review – 2007
cross-linked
—particles (metal-containing), polyurethane coatings – 6016P
—particles, antifoulants, hydrolysable bioactives – 3541P
—particles, ionomers, antifoulings – 3542P
—porosity – 3736
crystalline
—electron diffraction – 1935
—etching/microstructure – 1911
—X-ray scattering (small-angle) – 1949
crystallinity, GC (inverse) – 1945
cyclic, melts, Monte Carlo simulations – 8697
degradation, infrared spectroscopy, review – 3668
degradation (mechanochemical), review – 4471
developments/forecasts, materials/uses – 2341
dielectric properties, book chapters, review – 2045
diffusion (thermal), solutions – 8693
diffusion in
—coefficients by FTIR – 3760
—stresses driving, modelling – 6126
—theories, strains/temp/concentrations – 4555
—theories/experiments/stresses – 4554
—viscoelasticity/strains, simulation – 4565
diffusion/permeation/sorption & – 2028
dispersants (polymeric) – 9030P
DSC/light transmission simultaneous – 1202
electrical discharge (thermally-stimulated), relaxation map analysis – 6980
electron microscopy
—book chapters – 1998
—element specific – 6984
electronics, uses, review – 4887
ESR, book chapters – 1925
field flow fractionation (thermal) – 5316, 6097
fire retardants, mechanisms/evaluation, review – 2745
flocculation, of colloids by, modelling – 8678
fluids, viscoelasticity, theory/elastic strain/modelling – 5268
fluorescence techniques, review – 5280
fluorinated, wear resistance – 9583P
fractionation, book chapters – 1967
FTIR (photoacoustic) – 6077
functional groups, reactivity – 4010
GC/MS, pyrolysis GC, review – 1981
glass state, thermodynamics/kinetics – 2027
halogenated, primers, urethane prepolymers/phenolics & – 1079P
history, polymer science – 1525
infrared spectroscopy/microscopy – 6048
interactions
—GC (inverse)/contact angles – 2923
—with water, spreading pressure – 5342
interfaces
—diffusion/fractals etc – 1265
—with metals, study techniques – 9753
ion beams &, chemical changes – 7724
ladder
—azines/norbornadiene products – 1612
—from acrylamide polymers (substituted) – 4955
—from diphenyl sulphide – 182
—glyoxal/phenols (difunctional) – 845
—silanes, synthesis/uses – 4980P
—synthesis, polymerisation (group transfer) – 4059
layers, anchored, interactions other surfaces – 6145
light scattering – 1962
light scattering (quasielastic) – 9705
liquids, flow/polarimetry – 6854
living
—difunctional – 7293P
—polymerisation (precipitation) – 3172
mechanical properties, strength/toughness, review – 1905
melts
—confined, molecular dynamics simulation – 8582
—mica/mica surfaces interactions in – 1251
microparticles, manufacture/dispersibility/colloids (protective) – 9059P
microscopy, book chapters – 1955
mixing, equipment/theories/phase morphology – 5081
mixtures, with inorg condensates, by hydrolysis – 2365P
modification
—electroless deposition metals – 8055
—review – 4010
morphology, electron microscopy – 2931
MS
—analysis, techniques/review – 9694
—book chapters – 1957
—ionisation, single-/multi-photon – 6937
MS (laser ionisation), expert systems – 6915
MW, averages/distributions, book chapters – 1916
neutron scattering
— 1984
—book chapters – 1989
NMR, book chapters – 1917, 1954, 1979
NMR (carbon-13)
—multi-component systems – 2851
—spectral analysis/simulation approaches – 9666
NMR (solid-state)
— 1195
—broad band, uses – 2887

Polymers *(continued)*
—dynamic molecular organisation/examples etc – 5294
—high resolution – 2886
nomenclature
— 1529
—structure-based, suggestions – 8053
on surfaces, one end fixed, Monte Carlo – 7732
optical activity, book chapters – 1929
organics in, solubility calculation – 7719
oxidation, special features – 7291
particles
—basecoat/clear – 9491P
—benzoyl peroxides groups introduction – 6438
—coatings, pigments (inorg) & – 9319P
—drying – 3980P
—electroless deposition on – 8055
—encapsulation by particles (fine) – 3119P
—encapsulation, impactors – 3173
—formation presence dispersants (reactive) – 826P
—heat-curables, roughness/wear resistance – 8609P
—inks for ball-point pens – 2598P
—manufacture, polymerisation methods – 814
—particle size/thermodynamic characterisation – 2921
—sols/silicones on – 1484P
—spherical, pigments &, inks (water-borne) – 2597P
—transparent coatings – 2783P, 2784P
particles (coated), metal (compound) shells – 4369P
particles (fine), photochromicity – 9062P
particles (hollow), writing inks (water-borne) – 5070P
particles (spherical), coatings – 5231P
photo-oxidation, stages – 4313
photochemistry/photophysics, books/reviews – 5608
photochemistry/photoprocesses, books – 1447
photodegradation
—dyes/pigments effects, & stabilisers – 4299
—review – 4313
photon correlation spectroscopy – 1928, 1965
physics, fractals & – 7714
properties
—books – 2237
—for conservation, types, books – 3098
pyrolysis/GC
—book chapters – 1951
—characterisation/degradation kinetics – 3669
—identification/proposed databases – 8612
—methods (new) – 6065
pyrolysis/MS, identification, packaging materials – 5299
Raman spectroscopy, book chapters – 1991
reactions, books – 4787
reactions supports – 4009
reagents from, review – 4009
rheometers (elongational), review – 4463
self-crosslinkable
—acetals/polymers (hydroxylic) products – 108
—chromium carbonyl groups – 922
—cross-linking (reversible) – 3317
—cumyl isocyanates (unsatd) copolymers – 1804P
—epoxies (modified) – 228P
—epoxy/phenolics (modified) – 4089P
—from allyl carbamate-terminated acetals – 6502
—inter-/intramolecular reaction – 2366P
—non-wovens bonding – 1693P
—polymerisation seeds from epoxies/monomers – 3197P
—spiro groups/carboxylics – 4913
—trioxabicyclooctanes groups – 7343
SIMS – 3657
solubility in, vapours (org) – 1245
solubility parameters, GC (inverse) – 2930
solution properties
—colligative properties – 1961
—degenerate critical states, criteria – 3712
—hydrodynamic properties, review – 1894
—theory/equations/review – 2011
solutions
—solvent blends/ternary effects – 7726
—surfaces interactions presence – 8662
—viscoelasticity (dynamic), equipment – 6865
solutions (aq), phase equilibria/models – 8692
solvents/diluents &, solubility parameters/composition diagrams – 2019
spectroscopy (luminescence) – 1912
spectroscopy (luminescence/fluorescence), review – 6888
stabilisation, chemistry, review – 3992
star
—acrylics, cross-linked cores/polymerisation (group transfer) – 6466P
—cores cross-linked/arms group transfer – 4071P
—from macromonomers (star)/monomers – 4028
—ladder, synthesis – 4059
—microparticles, stabilisers (light) – 5000P
—styrene/isoprene, hydrogenation/sulphonation – 2380
statistics (US) – 6273
sulphonated
— 7363P
—block copolymers & – 2778P
—block copolymers (star) – 2380
—corrosion inhibitors, phosphonic acids/zinc salts & – 5166P
—from polyepichlorohydrin/sulphonic salts – 9179P
—particles, water-bornes – 970P
—synthesis, emulsion polymerisation (water-in-oil) – 196P
surface free energy
— 2917
—contact angles/non-linear programming – 2912
surface layers, GC (inverse) – 8638
surface tension – 2917
surfaces
—book chapters/review – 2008
—ESCA/SIMS – 1918
—infrared spectroscopy – 1959
—MS (secondary ion) – 2848
—orientation at, spectroscopy (reflective, internal) – 2874
synthesis/properties/raw materials, books – 741
telechelic
—synthesis, polymerisation (ring-opening) – 4051
—synthesis, review – 4014
thermal analysis
— 6041
—book chapters – 1985
thermal degradation
—kinetics, pyrolysis/GC – 3669
—review – 4557
thermogravimetry/mass spectroscopy – 6924
thermomechanical analysis, ultrasonics – 3746

Polymers *(continued)*
thermomechanical analysis (dynamic), review – 5273
toughened
—tough/brittle transitions, criteria – 6880
—toughening, mechanisms/factors – 1905
trade names, lists/producers/CAS registry numbers – 2241
trends, developments/forecasts – 83
ultrasonics – 2030
unsaturated, conjugated, from ketones (unsatd) – 9070
vinyl type, coatings, properties/uses – 3875
viscoelasticity – 1888
viscometry, book chapters – 1900
viscosity, prediction/modelling – 2824
water in
—determination – 5382
—determination, infrared (near) – 1987
water uptake, models/predictions/experiments – 2022
wetting, review – 5306
X-ray diffraction, structure – 1908
X-ray scattering, book chapters – 1977
zeta potential – 6981
Polymers, Carboxylated
amino groups, coatings removable by acids – 4333P
bituminous compsns – 9186P
cleaning compsns, amines & – 8355P
coatings
—polymers (amino-functional)/epoxy compounds & – 8185P
—removal by bases – 4334P
conformations/potentiometric titrimetry/hydrolysis presence – 4050
dispersants (polymeric) – 4190P
dispersions (aq), synthesis presence urethanes dispersions – 4188P
latices, ion binding/osmotic pressure – 543
maintenance paints, formulation – 9426
paper coatings – 4406P
particles, water-bornes – 970P
particles (core/shell)
—cores from, vesicles – 7251P, 7252P
—fluoropolymers cores – 7335P
pigments coated by – 2266P
polybenzodioxazoles – 181P
powder coatings, epoxies & – 1683P
products, with aziridines (unsatd) etc – 9528P
resists, cyclisation/cross-linking – 5458P
salts, irradiation, metal salts by – 2157P
Polymethacrylic Acid
conformations/pH, fluorescence presence – 6149
conformations/potentiometric titrimetry/hydrolysis presence – 4050
water-bornes – 7559P
Polymethyl Acrylate
interpenetrating networks – 4012
Polymethyl Methacrylate
adhesives (cyanoacrylate) modified by – 2837
allyl groups, reaction siloxanes Si-H – 8659
blends, acrylonitrile copolymers, phase behaviour – 8676
carboxylated, dicarboxylic end groups, macromonomers – 8076
coatings, for board – 2789P
cross-linked, interpenetrating networks – 7289
diffusion in, determination by radicals scavenging – 7730
dispersions (concentrated), interactions/light scattering – 6987
dithiocarbamates groups, chain extension, side reactions – 4644
end groups, benzoyl peroxide, diphenylpropene effects – 5694
flame retardants
—rhodium complexes/mechanisms – 5967
—rhodium complexes/products – 5189
interfaces, metals & – 7729
interpenetrating networks
—castor oil/diacid products & – 3186
—mechanical properties – 2828
—sequential, siloxanes first – 5663
macromonomers, synthesis – 4058
modified, by aminoalcohols – 6471P
NMR (carbon-13), solid-state, alpha-methyl peak/tacticity – 1995
particles, encapsulation by polyamides – 3173
resists, developers/sensitivity – 3807
synthesis
—companies (Italian) part acquisition – 5556
—plants acquisition – 9929
Tg, water/modelling/equations – 2038
thermal degradation, end groups effects – 6969
transparent coatings, ultraviolet absorbers, bound/low MW – 3995
treatment
—plasma, fluorocarbons (halogenated) – 3446
—plasma, surfaces from analysis – 6111
ultraviolet-curables for – 6227P
vinyl-terminated, thermal degradation – 9080
viscosity (intrinsic), temp/minima – 4470
Polymethylene Polyphenyl Isocyanate
binders, polyester polyols & – 9151P
modified, trimerisation then diisocyanates reaction – 9136P
polyisocyanates (self-emulsifiable) based on – 9149P
prepolymers, moisture-curables – 4159P
wire coatings, polyols & – 6770P
Polyolefins
adhesion promoters for, adhesives & – 5128P
adhesion to, acrylics/no mercaptans odours – 5826P
adhesives (water-borne), acrylics/tackifiers – 4220P
adhesives (water-borne) for – 996P, 5828P
adhesives for, polyurethanes – 9284P
carboxylated
—coatings, acrylics & – 4443P
—coatings, adsorbents & – 3489P
—lubricating coatings – 1154P
chlorinated
—acrylics synthesis presence – 4410P
—coatings for plastics – 441
—coatings, cyclopentyl acrylate polymers & – 1842P
—polymerisation presence – 6797P
—printing inks (radiation-curable) – 641P
—proprietary, properties/uses – 441
coatings
—adhesion promoters before – 327P
—piperidine groups/stabilisers (heat) – 6839P
films (orientated), primers/heat-sealable coatings – 1844P
graft copolymers
—emulsions/fire retardance – 5191P
—epoxy compsns – 1589P

Polyolefins *(continued)*
grafting
—with acrylic acid etc, adhesion – 3632
—with coupling agents – 979P
halogenated, adhesives, acrylic/urethanes & – 3390P
hydroxylated, polyurethane compsns, compatibility – 5772P
particles, sealants – 284P
photo-crosslinking, mechanisms – 1296
photocurables for, acrylics/acrylates (polyfunctional) – 9880P
photodegradation, impurities effects – 7303
photoresists, for printing plates – 1328P
powder coatings, flame retardants etc & – 2749P
powders (fine), manufacture – 8075P
solutions, dispersions of polymers in – 2530P
stabilisation, review – 3144
stabilisers (ultraviolet), acrylics/bound piperidine – 4876P
stoving finishes, epoxy/phenolics, for aluminium & – 8500P
synthesis, emulsion polymerisation (inverse) – 3196P
wire coatings, magnesium hydroxide & – 2747P
Polyols
blends, with diols, compatibility, urethanes for – 9092P
coatings, metal compounds/anhydrides & – 940P
demand/requirements/prospects, for urethanes – 5527
dispersants (polymeric) – 9031P
dyes groups – 7247P
epoxies (modified) – 4082P
esterification, with unsatd, diluents (reactive) – 1493P
flexibilisers, for epoxies – 2391
fluorinated
—compatibility with isocyanurates – 4961P
—synthesis/radiation-curables – 5423
GC – 1990
modified, acetals etc groups – 8027P
polymerisation presence, low/high MW polyols – 9030P, 9031P
reaction, with fatty acid esters – 6399P
solids content, alkanolamines/isocyanates in polyols – 3246P
synthesis, businesses transfer – 4720
water in, determination – 1987
Polyoxadiazoles
synthesis, from hydrazides main chain – 4958
Polyoxazolines
macromonomers, synthesis – 9077
terminal groups (telechelic), synthesis – 9077
Polyoxyethylene
See also polyethylene glycols & polyethylene oxide
Polyparabanic Acid
abrasion-resistant coatings, fluoropolymers particles & – 5238P
Polyphenylene Ethers
See also polyphenylene oxide
interpenetrating networks, siloxanes & – 3169
products, with polycarbonates (aromatic), copolymers – 2428P
synthesis, from phenols, catalysts/by-products/mechanisms – 6455
Polyphenylene Oxide
See also polyphenylene ethers
blends, with siloxanes, types/properties – 9738
brominated, flame retardants, effects – 5677
coatings for, polyurethanes (two-pack) – 1124P
interpenetrating networks, siloxanes & – 9738
stabilisers, for polyesters – 9094P
substituted
—compatibility with polymers – 797
—GC (inverse), interactions with polymers – 1933
—interpenetrating networks, full/semi- – 815
—interpenetrating networks, Tg/mechanical properties etc – 4021
—synthesis, polymerisation (oxidative)/catalysts – 7280
—synthesis, review – 3243
synthesis – 3243
Polyphenylene Sulphide
coatings – 9182P
perfluoroalkyl groups, synthesis – 9007
synthesis/curing/properties, review – 3310
Polyphenylenes
branched, synthesis from boronic acids etc – 4029
brominated, branched, synthesis – 4029
halogenated, flame retardants – 5190P
substituted
—synthesis from dibromobenzenes – 8072
—synthesis from phenylboronic acids – 8073
synthesis
—electropolymerisation – 4897
—from block copolymers (soluble) – 96
—review – 3209
Polyphenylenevinylene
precursors (soluble), cast blends from – 82
thin films, from xylylenebis(sulphonium) – 6007P
Polyphosphates
phosphating – 8357P
Polypropylene
adhesion promoters for – 8487
adhesives, polyamides/aminosilanes & – 3389P
adhesives (hot-melt), butylene copolymers & – 8268P
adhesives for, block copolymers etc – 2587P
atactic, anticorrosives, pipes – 3461
bonding, to steel, plastics pretreatment – 5868
chlorinated
—coatings, acrylics/coupling agents etc & – 8519P
—graft copolymers, polyurethanes & – 6520P
coatings, antioxidants &, loss control – 7619P
furniture (garden), painting, ultraviolet pretreatment – 5877
graft copolymers, dispersions in polyolefins solutions – 2530P
grafting
—with acids/anhydrides, NADs – 8194P
—with acrylates, plasma – 1558
—with hydrophilic – 8041
pretreatment
—methods/surfaces characterisation – 1038, 1041
—ultraviolet radiation – 5872
primers for – 8487
printability, pretreatment – 9385P
SIMS – 6950
treatment
—plasma polymerisation – 8041
—plasma, plasma guns – 9338
—with plasma, SIMS – 6950
Polypropylene Glycols
monoethers, GC (inverse) – 6072
synthesis, businesses transfer – 4720
Tg, & activation energy/heat capacity/MW – 539
triols, polyurethanes (two-component) – 4110P

Polypropylene Oxide
colloids (protective) – 3149P
Polypyrazoles
phenylene/pyrazole main chain units, synthesis – 165
Polyquinolines
synthesis, review – 3294
synthesis/deposition, electropolymerisation – 8122
Polyquinoxalines
synthesis, review – 3294
Polyquinoxalones
synthesis, thermal stability/Tg etc – 5742
Polysaccharides
accelerators, for oil paints – 944P
coatings
—against graffiti, washing off – 5222
—alkoxides/polyvinyl alcohol & – 9492P
—water removal, graffiti removal simultaneously – 2759
coatings etc, polyvinyl alcohol (acetoacetylated) – 3332P
grafting, initiators, manganese(III) – 8176
inks (water-borne), ball-point pens – 9318P
microbial
—bacteria (marine) cultivation – 7416
—composition/properties/uses – 4986
modified, by polyisocyanates – 8179P
products
—with aminosilanes, thickeners – 4001P
—with glycidyl ethers – 2508P
radiation-curables, for paper (synthetic) – 6796P
rheology, solutions/pastes/equations – 1898
synthesis, from pentenyl glycosides – 8173
treatment with, then isocyanates – 5978P
urushi varnishes, shells round polymerised urushiol – 2314
viscosity, MW superposition plots attempts – 1182
water-bornes – 8179P
Polystick Chemicals
acquisition, by Croda – 6308
Polystyrene
adsorption
—conformations, surface geometry/fractals – 9735
—on mica – 2934
—on silica, isotherms shapes/kinetics – 9749
beads, field flow fractionation (flow) – 4502
blends
—interactions/NMR studies – 1976
—with acrylics, compatibility – 8057P
—with polyvinyl ethers, NMR/solutions – 1931
brominated, polyesters/antimonates/glycidyl copolymers & – 863P
chlorinated, resists, X-rays – 6215P
chloromethyl groups, resists (three-layer) top layers – 9861P
chloromethylation, via methoxyacetyl chloride – 3276
coatings, styrene polymers/acrylics – 8498P
complexes (charge transfer) – 832
cross-linked, benzoyl peroxides groups introduction – 6438
cross-linking, Friedel-Crafts/aluminium chloride – 832
cyclic, figure of eight, synthesis etc – 88
diffusion, toluene/polystyrene solutions – 5340
dithiocarbamates groups, chain extension – 4644
expanded, fire-resistant coatings, water-glass etc – 6788P
films, diffusion in – 4565
GC (inverse), interactions with polymers, GC (inverse) – 1933
glasses, DSC/dilatometry/annealing – 7727
GPC – 1952
GPC (preparative) – 1937
grafting, with acrylic acid – 99
halogenated, halogen termination, block copolymers from – 4024
HPLC (gradient), MW separation – 9679
interactions, with polybutadiene, solutions – 6147
interpenetrating networks
—ionisable groups – 6426
—transparency, factors – 821
—viscoelasticity, fillers effects – 1192
latices
—coagulation, salt particles as seeds – 2551
—deuteration/structure/conformation constraints – 6935
—dielectric properties/surface groups – 5319
—light scattering dissymmetry – 6963
—non-spherical, polystyrene seeds/styrene – 7290
—particle size control/studies – 7302
—particle size distribution – 6129
—sedimentation (density gradient) – 1260
—surface charge pH independent – 8066
latices (core/shell)
—acrylonitrile shells – 6139
—infrared spectroscopy – 6933
—neutron scattering (small-angle) – 2381
macromonomers
—polymerisation, NADs from – 8065P
—polymerisation/MW/radius of gyration – 7304
microspheres, chloromethyl surface groups – 5733
modified, metallocarbenes groups, synthesis/reactions – 8153
painting – 4264
particles
—beads, lubricating coatings, lubricants/no fouling – 3560P
—ellipsoidal from spherical – 8069
photodegradation, stages – 5687
photon correlation spectroscopy – 9754
refractive index, increment (specific) – 9740
SIMS, silver cationisation – 6085
solution properties, solvents activity coefficients/GC & – 7645
solutions, extensional flow/thickening (apparent) – 496
solvent blends & – 2042
star, characterisation, flow-through/GPC comparison – 3670
substituted
—butoxy, synthesis/deblocking – 5697
—norbornadiene groups – 4737
—resists, azides & – 3856P
sulphonated, anions, stilbazolium aggregates on – 5339
thermal cycling, positronium annihilation – 6079
thermal degradation, polyethers (brominated) effects – 5677
treatment
—plasma, fluorocarbons (halogenated) – 3446
—plasma, nitrogen/ammonia – 4270
viscosity (intrinsic)
—MW (very high), adsorption-entanglement – 8579
—plot breaks/GPC – 1952
—temp/minima – 4470
Polystyrene Sulphonic Acids
salts, underseals – 9605P

Polysulphides
anticorrosives, oxides &, adhesion/harsh conditions – 3498P
aromatic
—sulphones links &, synthesis – 9181P
—synthesis/properties – 3310
—zinc titanate & – 4846P
barrier coatings, containment structures – 7603
blends, coatings – 9182P
block copolymers, polyether-imides & – 927P
carboxylated, from mercaptans/bisacrylates – 1636
coatings, for concrete, types/properties – 1855
epoxies modified by
— 1882P, 8160
—odours avoidance – 4921
—properties – 2403
epoxy compsns, adhesion to steel – 8605
epoxy groups (terminal)
—adhesives – 2403
—coatings – 195
from sulphonium zwitterions – 7358
ladder, from diphenyl sulphide – 182
products, with epoxies, coatings – 195
sealants, strips, coatings & – 4246
sealants (conductive) – 9324
synthesis, review – 3319
treatment – 928P
ultraviolet-curables, refractive index, acrylates & – 9902P
Polysulphones
aromatic, thioethers links &, synthesis – 9181P
block copolymers
—phase separation – 891
—synthesis – 4022
cyanates groups, bismaleimides & – 6521P
imides groups, pre-imidised, coatings – 9631P
synthesis, review – 3316
Polysulphoxides
synthesis, from polypropylene sulphide, properties – 919
Polytetrafluoroethylene
coatings, adhesion/stain resistance etc – 9506P
combustion products, corrosion – 3775
dispersions
—in polymeric, coatings/stratification – 6132
—surfactants etc & – 1142P
dispersions (aq) – 1142P
DSC, interpretation – 2021
lubricating coatings, formulation/properties/uses – 1130
particles, anti-foaming agents – 3993
powders, fillers etc &, anticorrosives – 1076P
powders (ultrafine) – 1503
reduction, to polyethylene – 1598
SIMS – 6950
thermal degradation, toxic products – 7013
treatment
—plasma, treatment time/wetting – 8679
—X-rays, etching/adhesion loss after – 7496
X-rays effects on – 884
Polytetrahydrofuran
modified, by fluoro-olefins – 6488P
synthesis/functional groups/products – 8091
Polytetramethylene Glycols
acrylates – 3989P
acrylates (mono-), & polymers therefrom – 3268P
acrylic/urethanes – 9881P
modified, acrylic/urethanes – 4649P
Polythiazyls
spacer units, conductivity (electrical) – 183
Polythioether-ketones
synthesis – 4136P
Polythioether-sulphones
aromatic, synthesis – 9183P
Polythioethers
block copolymers, synthesis – 4022
Polythiol/Polyenes
photocurables – 9889P
pressure-sensitive adhesives (radiation-curable) – 8767P
Polythiols
photoinitiators – 9891P
Polyureas
aromatic, synthesis/properties – 6490
carboxylated, cyclisation/cross-linking – 5458P
copolymers, siloxanes units – 4974
diffusion in, water vapour, resistance – 1851
from diaminodiphenylmethanes (substituted) – 3306P, 3307P
from phosphine oxides etc, imides (pendent) – 5965
from polyamines (aliphatic/aromatic) blends – 4965P
from polyamines from polyols/nitrohalobenzenes – 4113P
from polyetheramine-amides – 7353P
microencapsulation by, polyaddition (interfacial) – 1516P
solvent blends for – 3142P
synthesis
—polyether-amines/diisocyanates – 7354P
—review – 3293
unsaturated, from aminotriazines/unsatd diacids etc – 8130
Polyurethane Coatings
abrasion resistance
— 1859P, 9624P
—polyesters/isocyanates – 6844P
acrylics/urea groups/polyisocyanates – 1651P
adhesion (wet) – 545
aircraft, weathering/soiling/cleaning – 5146
anticorrosives
—acrylic/urethanes over – 1795P
—iron oxide/ethanolamine effects – 8399
—over moisture-curables – 4330P
—properties/uses – 9474
—types/uses examples/economics – 3485
automobiles, chip resistance/no foaming – 9630P
biocides – 6763P
bridges
—on epoxies on zinc dust paints – 1853
—testing/systems – 1051
carbodiimides/isocyanate groups – 2448
carbonates (cyclic)/amines products – 9196
cavitation resistance prediction – 1183
chip resistance
— 460P
—transparent over coated areas – 1176P
comparison, with ultraviolet-curables – 4643
curing
—humidity effects, reactions/properties – 2441
—processes/modelling/experiments – 166
—review – 3283
defects, substrates pores, avoidance – 9567P
emissions, monitoring etc – 6099
epoxies (modified) – 4082P
fast-drying, acrylics/polyesters products – 6542P
flame retardance – 1111P
for aluminium (foamed), first cut patterns – 5227P
for galvanised steel, over epoxies – 5214

Polyurethane Coatings *(continued)*
for plastics
—curing agents from substrates – 448P
—vapour curing – 9392P
for polyurethane foam, types/properties/uses etc – 3553
for wood, after organo-silicons treatment – 1802P
furniture, cellulose esters &, formulation – 5213
furniture (wooden) – 1852
hexane diisocyanates – 2465
high-solids
—polyisocyanates/isocyanates (blocked) etc – 460P
—polyols (mixed) – 209
—vapour curing – 898P
—vinyl chloride copolymers (hydroxylated) – 209
hydrophilicity – 6009P
manufacture, premix freezing – 4162P
markets/compliance solvents – 1605
microcapsules, isocyanates in – 456P
moisture-curable
—chemistry/materials/uses/water removal – 7378
—degradation, temp/humdity, FTIR – 2878
—for concrete, primers before – 452
—for stone, after cleaning etc – 6673P
—graffiti removal from – 2759
—prepolymers, isocyanate groups (tertiary) – 2470P
—properties/uses – 9474
—roofs (flat) – 7606
—spraying with steam – 5123P
—stabilisers/pot-life – 1653P
—thick coatings possible – 2529P
—triisocyanates/epoxy silanes – 8193P
—urethane prepolymers/isocyanate groups – 4159P
—zinc dust paints – 1763, 5133
nitrocellulose, solutions, water/alcohols removal – 934P
oil-modified, mechanical properties (dynamic) – 8603
one-component
—polyamines/polyamine-amides, no bubbling – 6842P
—spraying with steam – 5123P
—urethane prepolymers/isocyanurates/oxazolidines – 8383
one-pack
—polyester polyols/polyisocyanates (blocked) – 4170P, 4171P
—polyesters/isocyanates (blocked etc) – 6845P
—polyesters/isocyanates (blocked) – 6843P
optical fibres, thermo-oxidation, in situ/films – 5334
over urethanes particles on primers – 7373P
permeability, water vapour diffusion – 1851
photo-oxidation – 5156, 9457
photoinitiation rates, unweathered/weathered – 411
piles (steel), thin at joint parts – 1083P
pipes, from coumarone/hydrocarbon resins – 5241P
polyisocyanates synthesis – 1618P
polymers (hydroxylic), from cyclics (unsatd) – 144P
prepolymers, isocyanate groups (tertiary) – 2470P
primers for, vinyl chloride copolymers – 5242P
printed circuit boards, moisture resistance – 4370P
radiation-curable – 3283
railway stock, & filling compsns – 1778
replacement – 8185P
solvent resistance – 9624P
stain resistance, organo-tins/fluorinated polyols – 6744P
thermosetting
—curing agents, polyether-amines (alkoxylated) – 911P
—isocyanates (blocked)/polyethers (amino-terminated) – 4116P
—stability (storage) – 911P
thixotropic agents – 1510P
topcoats over, amino resins/polyols – 2771P
transparency, automobiles basecoat/clear – 5088
trifluoroethane – 1605
two-component
— 4150P
—absorbents against moisture etc – 169P
—agricultural equipment – 4412
—agricultural equipment, application – 5111
—automobiles – 6000P
—cellulose esters/shelf-life – 6801P
—curing conditions, effect on groups/links/properties – 2440
—data sheets/application instructions – 206
—for plastics, basecoat/clear – 9544
—formulation, pigments blends – 2918
—isocyanurates/polyisocyanurates isocyanate groups – 2467P
—novolacs (alkoxylated) – 1071P
—polyether polyols/isocyanates – 4110P
—polymers particles (cross-linked) – 6016P
—soft touch – 5196
—solvents, propanediols monoethers – 790
—spraying prepolymers/catalysts simultaneously – 3456P
—stabilisers/pot-life – 211P
—tubes (cement) – 5162P
—wires – 6770P
two-pack
—castor oil-based – 9489P
—defects/application conditions & – 5983P
—for polyphenylene oxide – 1124P
—spraying, hazards/safety – 562
urethane prepolymers (halogenated), from diols – 1111P
velvet appearance – 6027P
water-borne
— 3283
—advantages/cross-linking agents/resins/properties – 8199
—biocides – 9520
—polyurethanes (anionic)/amino resins/grind resins – 4177P
—stabilisers (bound), polyether-urethanes as – 4178P
—vehicles (motor) – 9220
—water resistance – 5789P
wood borers, penetration from baitwood – 7565
xylylene diisocyanate derivatives – 1652P

Polyurethane Compositions
catalysts, onium (various) – 9167P
catalysts (latent), organo-metallics – 8144P
dyes (polymeric) – 7247P
fast-curing, from acrylonitrile copolymers/polyether-amines – 3298P
lipophilicity – 7346P
lipophilicity/compatibility between components – 5772P

Polyurethane Compositions *(continued)*
moisture-curable, triisocyanates prepolymers/epoxy silanes – 9154P
one-component
—polyisocyanates (modified) particles for – 171P
—thickeners, amines/isocyanates products – 6414P
two-component, uretdione groups – 2460
two-pack, polyethers/glycerol/diisocyanates – 5754P
water &, absorption – 4972P
Polyurethane Foam
coatings for, polyurethane-ureas/melamine resins – 4409P
fire-resistant coatings, water-glass etc – 6788P
furniture, fire/tests/regulations (UK) – 711
mouldings, coatings (in-mould), release – 8488
over concrete, coatings/flame retardance – 5193P
polyurethane coatings, types/properties/uses etc – 3553
roofs stabilisation – 8314
spraying, isocyanates levels air – 8708
Polyurethane-imides
properties – 6497
Polyurethane-ureas
abrasion-resistant coatings – 1859P
adhesives, from polybutadiene (hydroxylated)/polybutadiene (amino) – 6599P
anionic, dispersions (aq), epoxies & – 8222P
blends, with siloxanes, phase separation/additives – 189
carboxylated
—photoresists – 6222P
—water-bornes – 4177P
coatings, spraying two nozzles – 8371P
dispersions (aq), epoxies & – 5026P
from glyceryl monoacrylate etc – 3325P
from polybutadiene etc – 4102
from toluene diisocyanate prepolymers – 3297P
from xylylenediamines – 2476P
hydroxylated, coatings, melamine resins etc & – 4409P
interpenetrating networks, properties/morphology – 6427
primer sealers, silyl groups & – 4447P
primers, for films (polymer) – 3556P
printing inks
— 8304P
—for plastics – 8292P
unsaturated
—dispersions, in diluents (reactive) – 3303P
—from glycerol acrylates etc – 6513P
—from toluene diisocyanate (substituted) – 4104P
—ultraviolet-curables – 5462P
Polyurethanes
adhesives
—adhesion to elastomers (treated) – 8596
—chemistry/properties/components – 992
—cohesion/pot-life/fillers – 9267P
—coupling agents blends – 8285P
—formulation – 266
—pressure-sensitive initial – 5820P
—urethanes from polybutadiene – 9284P
—uses/proprietary products – 1691
—vehicles (motor)/part pre-cured – 5051
—zeolites/minimal foaming – 8273P
adhesives (hot-melt)
—block copolymers etc & – 8270P
—moisture-curables – 1689
adhesives (moisture-curable) – 3377, 4209
adhesives (two-component), open time/green strength – 2576P
adhesives (water-borne), polymers (carboxylated)/aziridines – 9307P
allophanate groups, determination – 4490
anionic
—dispersions (aq), polymers & – 9236P
—polymerisation presence – 9236P
biuret groups
—determination – 4490
—synthesis/characterisation – 4522
blends, with acrylics, properties – 5216
block copolymers, with siloxanes, interfaces & – 189
carboxylated
—ammonium, & water-bornes – 230P
—cyclisation/cross-linking – 5458P
—dispersions (aq), ammonia neutralisation – 2543
—photoresists – 6223P
—photoresists, alkali development – 609P
—powder coatings, acrylics (carboxylated) & – 4205P
—recording materials (magnetic) – 8309P
castor oil-based
— 9150P
—interpenetrating networks – 818, 3292, 4012, 7289, 8049
catalysts
—amines (tertiary), hazards – 548
—tin/bismuth systems – 4106P
catalysts (supported), on polymers – 9060P
conductive coatings, spiro resins & – 7623P
copolymers, polycarbonates – 903P
cross-linked, emulsions – 5789P
curing
—reactions/effects – 4013
—room temp systems – 4154
dispersants (polymeric) – 63P
dispersions (aq)
—advantages/cross-linking agents/uses – 8199
—from dimethylolpropionic – 218, 5779
—polyesters & – 4228P
—polymerisation presence – 4188P, 6566P
—polymers & – 9230P
electrostatic spraying, conductive materials & – 9563P
epidemiology, workers/methacholine inhalation tests – 2077
fluorinated, photoresists – 6223P
from acrylonitrile copolymers/polyether-amines – 3298P
from amide acetals/phenol products – 4962P
from bis(isocyanatophenyl)silanes – 916
from carbonates (cyclic)/amines – 9196
from carboxylic acids (hydroxylated), orthoesters addition – 9157P
from diol biscarbonates/diamines – 8127
from imidazoles (difunctional) – 3288
from isocyanates from aniline-formaldehyde – 6770P
from polybutadiene, sealants – 5851P
from polybutadiene etc – 466P, 4102
from polyisobutylene/siloxanes products – 9178P
from polyols, polyols requirements/prospects etc – 5527
from polyols/diamines (chlorinated) – 6508P
from prepolymers/diaminobenzoic – 6503P
from spiro compounds, shrinkage avoidance – 5759P

Polyurethanes *(continued)*
graft copolymers, polypropylene (chlorinated) & – 6520P
grafting, with vinyl esters, optional hydrolysis etc – 9148P
heat resistance
—dienes polymers (hydroxylated) – 8145P
—from carboxylic acids etc – 9158P
high-build coatings – 9399
high-performance coatings – 365
hydrolysis resistance, from methyloctanediols – 6512P
hydrophilicity, acrylates & – 2485P
hydroxylated, from polybutadiene (hydrogenated) – 9283P
intermediates, synthesis, joint ventures – 4728
interpenetrating networks
— 497
—curing – 81
—ionisable groups – 6426
—mechanical properties – 2828
—morphology/ESR – 4496
—transparency, factors – 821
—urethanes phases – 5668
interpenetrating networks (semi-), mixed polyols/mechanical properties – 2836
isocyanate groups, determination – 4490
magnetic coatings, isocyanates/hydroxylics/water & – 4237
magnetic tapes – 1018P
markets, developments – 5527
metallic finishes (water-borne) – 2773P
modified
—by silicones, interpenetrating networks – 825P
—interpenetrating networks, heat-curables/in situ formation – 825P
—polymerisation presence, dispersions from – 9229P
moisture-curable
—adhesives (hot-melt) – 8259
—curing agents (latent)/low moisture needs – 8134
—curing blistering prevention – 6420P
mouldings of
—coating (in-mould), curing before injection – 5205P
—paintability – 1117P
—RIM, polyurethane coatings – 9544
—RRIM, coatings (in-mould) – 5199
—undercoats, phosphites/phosphates etc – 5209P
NADs, microparticles – 3345P
networks
—defects levels – 7342
—functional groups ratio/diluents effects – 6870
photochemistry, & model compounds/mechanisms – 887
photochromic coatings – 1876P
powder coatings, cyclohexane diisocyanates derivatives – 4203P
powders, on primers, topcoats over – 7373P
pretreatment
— 1041
—phosphoric acid/solvents – 6663P
primers – 1148P
reaction, with amines, kinetics/epoxies flexibilisation – 8080
recording materials (magnetic)
— 8306P
—chain extension – 8300P
—copolymers/isocyanates & – 8310P
sealants
—formulation – 266
—wood meal etc & – 7442P
segmented
—adhesion/length between cross-links – 5262
—ionomers, properties/emulsification effects – 2445
—phase separation – 5747
—surfaces, ESCA/SIMS – 1953
—surfaces, soft segments at – 1217
silicone-modified – 5236P
SIMS, with/without trifluoroacetic treatment – 6918
soluble, bisphenol fragments, synthesis/properties – 8131
solventless compsns, drying oils/plasticisers & – 5037P
stabilisers (heat), hydroxystyrene (substituted) polymers – 60P
stabilisers (light) – 3148P
strippable coatings, fans etc – 6026P
sulphonated
— 179P
—recording materials (magnetic) – 8309P
—transparent coatings, siloxanes & – 475P
suspensions, treatment with, then topcoats – 9468
synthesis
—DSC/FTIR – 1234
—plants (planned), Spain – 5555
—presence acidics/basics products, flame retardance – 2746P
—presence polyesters (unsatd) – 1234
—viscosity during – 6859
synthesis/curing, review – 3283
thermal degradation, pyrolysis/MS – 3285
thermal stability, melts – 1610
thermogravimetry – 7647
thickeners (associative), solutions/rheology – 6871
thixotropic compsns
— 8316P
—stability (storage) – 8535P
toluene diisocyanate (substituted) – 2471P
two-component
—isocyanates unblocking catalysts – 2484P
—polyethers/glycerol/diisocyanates/diisocyanates products – 2701P
types/raw materials – 1605
unsaturated
—carboxylated, synthesis/uses/radiation curing – 8769P
—diisocyanates/reactives/triamines – 7092P
—diluents (reactive) for air-drying – 6506P
—from glycerol acrylates etc – 6513P
—grafting with acrylic – 7340
—synthesis – 910P
—synthesis/infrared spectra/NMR – 2452
—thiosulphates groups, synthesis/characterisation – 2452
—ultraviolet-curables (water-borne) – 2998
—unsaturation (terminal), from diols (cycloaliphatic) etc – 1614P
vapour curing
—spraying with the coating – 9339
—Swedish companies – 7887
—two layers individual cure – 9567P
viscoelasticity, during curing/final – 3627
water-bornes, transparent coatings – 8223P
waterproof coatings, coal tar/clays etc & – 1168P
wire coatings, lubricants & – 1828P

Polyvinyl Acetal
coatings, isocyanates (blocked)/carbodiimides/uretonimines & – 5186P
monolayers/multilayers, thickness/wetting/NMR/structure – 2044
powder coatings, epoxies & – 1826P
products
—with phenolics, adhesives/primers – 1155P, 1156P
—with phenolics, coatings from coupling agents & – 1870P
Polyvinyl Acetate
adhesives, for wood – 4207
blends, with polyvinylidene fluoride, DSC/FTIR – 2006
branched, light scattering/GPC/viscometry – 2002
coalescing agents & – 5783
coatings, mines walls, urea resins/oxalic acid & – 9603P
dispersions (aq), ethyl silicate/aluminophosphates & – 3356P
emulsions, properties/colloids (protective), surfactants effects – 8086
films, curing agents – 812P
latices
—coatings, insolubilisation – 4395
—viscosity, control by synthesis conditions – 3624
latices (core/shell), infrared spectroscopy – 6933
mastics (water-borne) – 9328P
printing inks (water-borne) – 4229P
synthesis
—emulsion polymerisation (inverse) – 3196P
—plants closure/relocation – 4726
—presence polyvinyl alcohol – 843
—wastes, adhesives – 9288P
viscosity, solvents/temp/concentration – 5264
water-bornes, aminosilanes/silanes etc & – 8288P
Polyvinyl Alcohol
acetoacetylated, coatings, polysaccharides etc & – 3332P
adhesives (water-borne), adhesion promoters & – 7423P
alkoxylated, butyrals, structure/water resistance – 9078
coatings
—over photoresists – 8796P
—pigments (inorg/org), ink jet over – 9319P
colloids (protective), polymerisation presence – 843
complexes, with copper(II), reduction – 9012
detackifiers
—overspray treatment – 4627P
—overspray wash treatment – 8746P
films, curing agents – 812P
grafting
—with methyl acrylate, mechanisms/phases – 3201
—with vinylidene chloride etc, cerium(IV) – 9066
modified
—amino groups, photocurables – 7084P
—ammonium groups (pendent), synthesis – 6467P
—dispersants, calcium carbonate & – 3126P
—resists, siloxanes groups (pendent) – 9860P
paper coatings, MW (high), permeability resistance etc – 9557P
products, with anhydrides, coatings/hygroscopicity – 2788P
solutions (aq)
—ageing/supermolecular formations – 5324
—ultrasonics/MW/relaxations – 8667
styrylpyridinium groups, photo-crosslinking – 2986
synthesis
—from polyvinyl esters (various), characterisation – 105
—MW (low), from vinyl acetate – 5727P
water-bornes (high-solids) – 244P
Polyvinyl Butyral
adhesives, phenolics/epoxies & – 3383P
coatings, for glass, aromatics etc & – 3487P
electron beams &, degradation/properties effects – 9747
modified, from polyvinyl alcohol (alkoxylated) – 9078
powder coatings
—elasticity, additives – 1677
—epoxies & – 1826P
temporary protection, corrosion inhibitors (mixed) etc & – 4344P
writing inks
— 4241P
—solvent blends/rheology – 5068P
zinc dust paints – 1787P
Polyvinyl Chloride
adhesives
—epoxies &, interfaces/dehydrochlorination/dicyandiamide segregation – 7414
—interfaces ESCA/dehydrochlorination – 7415
adhesives (water-borne) for, tackifiers – 5819P
adhesives for
—& wood, adhesion – 1439
—acrylics/water-glass/chlorohydrin products etc – 7422P
—solvent blends/polymers – 3380P
cadmium in
—determination – 1211
—determination, AAS – 9660
chlorinated
—anticorrosives – 1774
—anticorrosives, plants (chemical) – 1775
—coatings for plastics, pipes – 7593
coatings
—for zinc etc, carbon-chlorine splitting – 6701
—weathering (accelerated) – 8420
colourants, complexes, aminopyridines-containing – 3103
combustion products, corrosion – 3775
films
—coatings, acrylics/cellulose esters – 8490P
—colour, pigments size/concentration – 2808
fire hazards, hydrogen chloride/dioxins – 6173, 6184
fires, products, toxicity – 1273
foams, metallisation, clear coats (coloured) – 2754P
interpenetrating networks
—morphology/ESR – 4496
—urethanes & – 5668
interpenetrating networks (semi-) – 2836
leaching, methods/chemicals (toxic) – 7019
lead in
—determination – 1211
—determination, AAS – 9660
miscibility, with acrylics, ester groups – 6152
organo-tins in, extraction/GC – 1994
photo-oxidation
—mechanisms – 9129
—plasma, properties after – 6655

Polyvinyl Chloride *(continued)*
photodegradation, spectroscopy/mechanisms/plasticisers – 6483
plasticised
—adhesion to, tackifiers – 3388P
—adhesives for – 5709
—coatings for, surface organisms control – 422P
plasticisers, phthalates, determination, potentiometry – 1926
plastisols
—adhesion promoters – 8591
—anticorrosives – 5152
—coil coatings durability prediction – 2897
—fillers comparison – 4816
—hardness/acrylics – 5074P
—two sizes, acrylics powders & – 1718P
—weathering, natural/accelerated – 5901
pressure-sensitive adhesives for – 8281P
reaction, with thiophenates, in phthalates – 6481
sealants, siloxanes/lignin & – 6615
stabilisers, maleates Diels-Alder – 5732
stabilisers (heat), zinc discolouration retardation – 5647
synthesis
—plants (planned), Brazil – 7877
—plants, Brazil – 3890
thermal degradation
—catalysts, zinc chloride – 4947
—structure/mechanisms/stabilisers – 158
ultraviolet absorbers, photochemistry/concentration/efficiency – 2300
water-bornes, epoxies (modified) & – 238P
weathering (natural), photostabilisation/review – 6699
window-frames, painting/stages/weather resistance – 5096
Polyvinyl Fluoride
plastisols, over epoxies, pipes – 4351P
properties/coatings/weather resistance – 883
topcoats, over acrylics – 3337P
Polyvinyl Methyl Ether
blends
—with polyacrylic acid, & complexes – 3165
—with styrene copolymers – 540
Polyvinylcarbazole
complexes (charge transfer), pyromellitonitriles & – 2604P
nitrated, complexes (charge transfer) – 8136
NMR (two-dimensional) – 1221
Polyvinylidene Chloride
heat-sealable coatings, primers before – 4407P
Polyvinylidene Fluoride
adhesives for, curing agents/substrates interactions – 7419
blends
—with its copolymers – 5734
—with polyvinyl acetate, DSC/FTIR – 2006
GC (inverse), interactions with polymers – 1933
melts, rheology/MW – 3620
powder coatings, manufacturers (Dutch) – 2200
properties/coatings/weather resistance – 883
proprietary, licensing – 6287
SIMS – 6950
surfaces, modification – 4090
Polyvinylpyridine
flocculants – 2041
solvent blends &
— 2042
—viscosity/light scattering – 3750
Polyvinylpyrrolidone
coatings, over photoresists – 8796P
Pores
adsorption on, flow through/shear thickening – 4457
characterisation, NMR/pore fluids – 7717
microspheres with, silica – 1458
size distribution
—determination – 1244
—nitrogen adsorption/mercury penetration – 9727
substrates, coatings defects avoidance – 9567P
Porosity
coatings (inorg), by polymers particles removal – 477P
determination
—by mercury, pressure effects/problems – 2920
—CPVC (real) by – 2933
—particles (cross-linked) – 3736
—water-bornes, nigrosine penetration/colouration – 6958
emulsion paints, hiding power/tinting – 7706
particles, polymers (cross-linked) – 3736
styrene/divinylbenzene copolymers, synthesis diluents etc – 8688
zinc dust paints & – 9469
Porous Materials
acoustic waves (surface) – 7717
particle size distribution, determination – 3731
sealers, monomers & cyclodextrins/initiators – 6616P
Porous Substrates
adhesives, for silicone-coated etc substrates & – 9287P
adhesives (cyanoacrylate), thixotropy – 5054P
adhesives (water-borne), permeability – 5822P
coatings, emulsions/photopolymerisables etc – 5480P
filling compsns (ultraviolet-curable) – 2167P, 4668P
high-solids coatings, flow not penetration – 2533P
impregnation/silicate paints – 363
treatment, cleaning/honing etc/moisture-curables – 6673P
water-bornes
—acrylics/insoluble polymers – 4189P
—epoxies – 133P
Porphyrins
halogenated, new, catalysts from – 7999
of aluminium, initiators – 2340, 2514
photoinitiators, electron acceptors & – 4646P
Positronium Annihilation
polystyrene, thermal cycling – 6079
theory/free volume/coatings field – 6092
Positrons
annihilation, coatings/corrosion resistance/film thickness – 372
Postage Stamps
See stamps
Posters
release coatings against – 8536P
Pot-life
adhesives, polyurethanes – 9267P
allyl compounds/polymerisables/acetylacetonates etc – 8239P
driers, stabilisers – 68P
epoxy compounds & polymers/silyl groups – 5001P
epoxy/polyamides, stabilisers – 9043P
extension, by molybdenum compounds – 6538P

Pot-life *(continued)*
polymerisables/driers etc, extension – 6538P
polyurethane coatings (moisture-curable) – 1653P
polyurethane coatings (two-component) – 211P
Potassium Polyacrylate
water in, DSC/transitions below zero deg C – 9685
Potassium Silicate
anticorrosives (water-borne) – 1091P
coatings
—extenders/formulation – 762
—history/advantages – 8313
fillers &, infrared spectra of compsns – 1968
solutions, structure – 7703
Potentiometric Titrations
chromium (hexavalent) – 6094
non-polar media, differential amplifiers – 6098
polymers (carboxylated) – 4050
Potentiometry
errors, random/systematic – 3684
plasticisers, electrodes (ion-selective) – 1926
water/solvents – 1960
Powder Coatings
See also fusion-bonded coatings
acoustic emissions – 2835
acrylics
—amines (hindered)/spiro groups & – 1686P
—application (dry-on-dry) – 7410
—chemistry/properties/developments – 7410
acrylics (carboxylated), amides/carboxylated materials & – 4205P
acrylics (hydroxylated, carboxylated) – 2418P
acrylics/polyesters – 7410
acrylics/polyesters products – 1688P
additives, spraying over particles – 8236P
advantages/application/uses/statistics/forecasts – 977
advantages/developments – 6576
advantages/uses/problems/development sectors – 2188
application
— 6576
—automated/plants examples/benefits – 5880
—automation/energy/environment/layout etc – 1726
—booths/spraying/recycling, fluidised hoppers – 9383P
—brake pads, lines/automation – 3438
—charging (triboelectric)/safety – 7776
—colour change quicker – 7480
—developments/forecasts – 7403
—domestic appliances – 6660
—equipment types – 5879
—equipment, manufacturers (Indian) – 1037
—equipment/planning/automation/colour changes – 6654
—fluidised beds (overflow) discs – 6652
—fluidised beds, particle size – 1682P
—fluidised beds, viscosity/density of beds – 6639
—painting (contract) role/costs – 309
—plants (Canadian), contract – 8346
—plants (Malaysia) – 4262
—plants, aluminium (extruded) – 4259
—plants, conversion to – 4279
—plants, vacuum components – 4265
—plants/equipment/automation – 4276
—powders/overspray sieving – 7456
—problems – 7500
—problems/measures, advice – 319
—rebars, plants (Italian) – 5102
—stoving ovens (radiant) – 7478
—to plastics, in-mould – 9366
—vehicles (motor) wiper-blade frames – 9367
application (dry-on-wet)
— 5235P
—over coatings on electrocoating – 7506P
application/coatings, review – 4991
cans seams repair, heating (induction) – 5038P
coalescing agents, volatilisable – 3361P
components/markets – 7399
contaminants, defects v matting – 2561
contamination, by other powders, effects – 2561
corrosion resistance, binders/pigments/zinc/pretreatment effects – 9476
cross-linking, by water immersion – 979P
decorative effects, methods – 7405
defects, types/causes/avoidance – 8233
developments
— 2510
—application/technology, review – 9243
—forecasts – 7403
developments/research aims – 3358
diallyl terephthalate/alkylbenzenes copolymers – 9249P
economics/constituents/application – 8184
electrical equipment, cores/coils securing – 3362P
electrical insulation, epoxies & epoxy/novolacs – 8479P
electrical properties, of powders – 6134
electrostatic application
—aluminium oxide powders – 8237P
—charging (triboelectric) additives – 6577P
—diagnostic kits – 7723
electrostatic spraying
—charging (triboelectric), equipment – 9377P
—equipment – 5093
—equipment (proprietary) – 7471
—hangers/suggestions/grounding – 6645
—mesh screens near nozzles – 1750P
—spray guns – 324
epoxies (advanced), from epoxies (unsatd)/monomers – 9104P
epoxies (modified), by imides – 6462P
epoxies for, chemistry/synthesis/modification – 8083
epoxy/novolacs, dicyandiamide & – 3360P
epoxy/polyesters
—epoxies (modified) – 6462P
—explosions hazards – 5358
—titanium dioxide grades effects – 4819
—zinc oxide/phosphines synergism – 5799P
ethylene copolymers (modified) – 6579P
explosions – 7770
film thickness – 7411
flame retardance, polyolefins/retardants/soaps – 2749P
flow (pneumatic), meters (on-line) – 3637
flow control agents
—maleic copolymers – 9046P
—siloxanes/polyethers – 62P
fluorescent dyes (daylight) – 7406
fluoropolymers, properties/uses – 1678
fluoropolymers/acrylics – 4952P
fluoropolymers/acrylics/coalescing agents – 3361P
for aluminium
—building industry, use/standards – 7408
—market (US)/specifications etc – 1679
—pretreatment (chemical) options – 7490
for ceramics, applied to hot – 259P

Powder Coatings *(continued)*
for plastics, powders treatment/charging (triboelectric) – 5200
for roofs panels/chimneys supports – 4199
for steel (chromium-containing), heat resistance – 262P
for steel (metal-coated), heat resistance – 260P
for steel (zinc-coated)
—chromating – 2637
—chromating before – 3447
—polyesters/corrosion resistance/defects – 6725
formulation/manufacture, GPC uses – 7696
from epoxies
— 119, 880P
—acrylics/polyamides in – 257P
—anhydrides (polymeric)/sharp melting/flow – 6578P
—anhydrides/maleimides – 9244
—curing agents – 877P, 4942P
—curing agents, epoxy siloxanes – 3270P
—curing agents, silanes (non-hydrolysable) – 7409
—curing temp reduction – 3358
—electrical insulation – 7587P
—electrical insulation, formaldehyde resins – 1104P
—electrical insulation, polyvinyl formal etc – 1826P
—emissions, aerosols/curing/degradation/monitoring – 2105
—epoxies advancement – 7330P
—epoxies blends/curing agents systems – 1687P
—epoxies blends/electronic components/moisture resistance – 8242P
—epoxies from naphthols/formaldehyde – 860P
—fire retardants – 5188P
—formulation – 976
—graft copolymers – 1589P
—kaolin (modified) – 8241P
—motors rotors slots, rubber powders & – 3363P
—particles (inorg)/glass powders – 7413P
—phosphines etc & – 8242P
—pipes coatings – 8541P
—resins (proprietary)/formulation – 7407
—salicylic allyl ethers – 1595P
—silyl groups, properties – 2565
—ureas & – 9246
—ureas (substituted) – 1681
from polyesters (modified), by acrylics/polyols – 9247P
graft copolymers
—polyesters/nitrogen-containing monomers – 5035P
—silicones/monomers – 980P
hazards/safety – 7770
heat resistance
—primers/powder coatings – 261P
—silicon-based polymers – 5036P
infrared drying, equipment (proprietary) – 2133
manufacture
— 7403
—equipment/methods – 7450
—joint ventures, Dubai – 7898
—joint ventures, Switzerland – 7884
—joint ventures/plants (planned), China – 3058
—methods/coatings structure etc – 9750
—plants (China) – 4254
—plants (Malaysian) – 7866
—plants expansion (USA) – 4724
—problems/solutions – 6576
—resins/pigments mixing – 1030P
—sieving – 7456
—silica/clear blending with pigmented – 1685P
manufacture/uses, India – 977
manufacturers, Germany/France/Italy/China/Netherlands – 4710
manufacturers (French), activities – 6319
manufacturers (Italian), majority holdings acquisition – 687
manufacturers (New Zealand), acquisition UK – 7878
manufacturers (UK/world)/new applications – 8828
manufacturers (US) – 3070
market (American, North) – 9242
market (Canadian)/manufacturers – 3868
market (US), this decade, & types – 6244
market (US)/specifications/types – 1679
market (USA etc)/developments – 3029
market/growth trends/outlook factors etc – 7850
markets (UK)/requirements/technological aspects etc – 7401
markets/statistics etc – 253
markets/statistics/manufacture/materials etc – 2563
masking, heat resistance – 6651
matt
—polyesters blends/isocyanates (blocked) – 984P, 8240P
—polyurethanes, cyclohexane diisocyanates derivatives – 4203P
melamine resins, carbamates groups – 8133
metallic finishes, flakes bonded to powders – 7400
multilayered coatings
— 7411
—epoxies/acrylics – 8235
—epoxies/polyamides/ceramics – 5801P
paint industry (Korean) – 7135
particle size
— 1682P
—determination – 7735
particles (core/shell) – 4084P
particulates, in air, sampling/bisphenol A levels – 2885
pipes, polyolefins/silanes graft copolymers – 979P
polyamides
—& application – 7398
—adhesion, acrylics/phenolics & – 5034P
—electrochemical measurements – 9450
—epoxies in, manufacture/solvents use – 2568P
—powder manufacture/coatings structure etc – 9750
—sulphonamides condensates & – 4201P
polyesters
—fast curing/low temp/durability – 7404
—flexibility – 3364P
—glycidyl copolymers/isocyanates/chelates/phosphates – 5800P
—glycidyl copolymers/phosphates groups & – 5798P
—glycidyl esters & – 4204P
—manufacture by dissolution – 3365P
—polyesters/polybutylene terephthalate blends – 4206P
—resins synthesis/marketing, companies – 3061
—synthesis for – 9248P
—toxicology, isocyanurates & – 7778
polyether-amides, imides groups (pendent) – 7345P
polyisocyanates (blocked) – 6510P
polymers, synthesis for, plants (Japanese) – 5536

Powder Coatings *(continued)*
polymers (carboxylated)/epoxies, tiles (slate) – 1683P
polymers/epoxy groups/unsatd monomers/curing agents – 9250P
polymers/photochromicity, particles (fine) – 9062P
polyvinyl butyral, elasticity, additives – 1677
polyvinylidene fluoride, manufacturers (Dutch) – 2200
powders properties importance – 7411
pretreatment
—advantages – 7476
—methods/salt spray/adhesion etc – 5882
pretreatment/grain size/application etc – 1680
primers, polyimides/same resins – 4437P
proprietary – 9241
radiation-curable, photoresists – 3821P
rebars
—statistics/specifications/proprietary – 9245
—use/standards – 7408
recoatability – 9046P
resins, synthesis, companies (Dutch) in USA – 3059
semi-gloss
—polyesters blends/isocyanates (blocked) – 8240P
—powders combinations – 2561
sieving – 7456
spray guns – 7509P
spraying, air drying for – 6623
spraying (hot), materials – 8230
staining resistance – 5799P
statistics (American, North) – 6263, 7896
statistics (Chinese) – 7129
statistics (Europe/USA)/markets – 5508
statistics (European) – 7147
statistics (Korean) – 3874
statistics (UK) – 8828
statistics/companies/forecasts – 7845
statistics/forecasts – 6259
statistics/forecasts (Asian) – 4687, 7145
statistics/forecasts (Chinese) – 3873
statistics/forecasts (European, West) – 4685
statistics/manufacturers/advantages/types – 6274
statistics/uses/forecasts – 2185
stoving
—by infrared – 7469
—mass loss determination – 4779
stoving (lower temp) – 254
stripping
—compsns – 6676
—from hangers etc – 6680
technology/advantages/trends/future – 7402
tetrafluoroethylene copolymers, powders manufacture – 978P
textured finishes from, computers – 4200
thermoplastic – 7372
thermosetting
—additives – 9651
—automobiles, pretreatment/application/uses etc – 5797
—bismaleimides/ethynylanilines products – 5033P
—books – 7935
—cables (post-tensioning) – 257P
—epoxies (aromatic) – 7412P
—epoxies/bicyclic amidines/isocyanates – 982P
—epoxies/insulation – 432P
—epoxies/maleimides (polyfunctional) – 4373P
—epoxies/solid hardeners/insulation – 431P
—epoxy/phenolics & novolacs – 5239P
—epoxy/phenolics & silicones – 4936P
—film formation, rheology/factors – 9651
—glycidyl polymers/titanates etc – 983P
—manufacture, models/algorithms/productivity – 8234
—manufacture, pigment dispersion good – 4202P
—polyesters (carboxylated)/amides (hydroxylated) – 5802P
—polyesters, thick without bubbles – 1684P
titanium dioxide, selection factors – 7231
topcoats, clear, over coatings over electrocoating – 8187P, 8188P
transparent coatings, markets/requirements/types/properties – 9242
types, comparison/Canadian market – 3367
types/advantages/manufacture/application – 3359
types/production shares – 7402
types/properties/end-uses – 255
types/properties/uses – 252
uses/advantages/problems/future – 2562
uses/types/properties/particle size etc – 8235
vehicles (motor), comparison with others – 2562
vinyl acetate copolymers, isocyanates adducts/oxides etc – 8244P
vinyl alcohol copolymers/polyisocyanates – 263P
wires, epoxies blends – 1825P

Powders
See also particulate materials
blends, fines segregation, theory – 7739
classification, by shape, sieving/vibrating sorters – 3759
electricity (static), hazards/measures, books – 3097
explosions
—causes/situations/electrostatic – 7026
—explosive potential determination/parameters – 4605
—pressure characteristics – 8720
filling with, equipment (proprietary), developments – 3416
filtration/fillers residues, handling – 5855
fine
—manufacture, drying (freeze) – 7452
—manufacture, from solutions/non-solvents – 823P
—polyolefins, manufacture – 8075P
flow
—models (empirical) fitting – 3637
—pneumatic, flow meters (on-line) – 3637
fluidisation, factors/cohesive forces minimisation – 7746
fluoropolymers, manufacture – 978P
handling
—dusts control – 8715
—laboratories, exposure/ventilation – 5353
handling (pneumatic)
— 3424
—phase equilibria – 3421
metering, gravimetric feeders – 4251
moisture in, determination, infrared (near) – 1987
oxides (metal), alloys combustion – 1486P
packaging, dusts exposure/control – 9767
pigments/phthalates/polymers, water-bornes from – 1667P
polyamides, soft-feel coatings – 1869P
polyesters, manufacture by dissolution – 3365P
polymers (carboxylated), self-emulsification – 2429P
polyurethanes, on primers, topcoats over – 7373P
processing, handling/metering etc, equipment – 6625

Powders *(continued)*
sampling, on-line, for infrared – 7650
silicones, from silanes/siloxanes – 7366P, 7367P
storage, segregation problems – 8749
surface area, determination, permeametry – 8656
waxes, manufacture, explosions, studies/measures – 2061
Power Plants
anticorrosives – 1774
Power Stations
See also nuclear power stations & hydroelectric power entries
anticorrosives, performance/maintenance schedules – 6719
corrosion
—control – 5924
—control, wastes combustion plants – 1760
emissions, control – 4794
PPG Industries
acquisitions by, of Casco Nobel vehicles (motor) refinishing – 3906
activities/globalisation/strategies/performance – 7905
joint ventures, silica, Mitr Phol Sugar &, plants & – 3900
Precipitation
nucleation, kinetics – 6148
styrene (residual) determination – 2003
Precipitators
electrostatic, coaxial, theory – 5393
Preservatives
See also wood preservatives
biodegradation of, micro-organisms – 3512
chromium, analysis in wood, distribution – 6060
copper
—analysis in wood, distribution – 6060
—tolerance – 3507
copper/arsenic
—ammoniacal, plants/hazards/guidance – 415
—ammoniacal, wood (treated) storage – 2727
—tolerance – 3507
copper/chromium/arsenic
—application, sludge formation reduction etc – 9515
—EEC directives (proposed) – 8850
—hardwoods (Indian) – 2717
—plants/hazards/guidance – 415
—testing – 5949
—tolerance – 3507
—tolerance, fungi viability/enzymes – 9509
—tropical conditions, performance/retention – 2718
—wood (treated) storage – 2727
copper/chromium/boron, leaching, temp/time – 5951
Pressure-sensitive Adhesives
acrylics
— 3376
—formulation, mechanical testing in – 5045
—from macromonomers/acrylates – 6600P
—from pentadecylphenyl acrylates etc – 4057
—monomers (residual) scavenging – 270P
—siloxanes to surfaces – 5830P
—tackifiers – 8254
acrylics (hydroxylated)/cross-linking agents – 3385P
acrylics/dextrin – 6592P
adhesives industry (US), history/types/tapes/markets – 8838
amino resins/polymers (reactive) – 9272P
elastomers, ageing – 8249
electron beam-curable – 5415
emulsions, acrylics (carboxylated) – 3387P
ethylene/vinyl esters/diacid esters copolymers – 6596P
for plastics, vinyl ester copolymers – 8281P
formulation, experimental design – 268, 3376
glycidyl copolymers, of lactams (unsatd) – 6585P
high-solids, formulation – 268
hot-melt
—electron beam-curables – 1689
—polymerisation for, acrylates/macromonomers – 5053P
—polymerisation for, by radiation (ionising) – 6597P
—proprietary – 5808
—propylene/hexene copolymers – 3375
hydrocarbon resins – 97P
labels
—manufacture/quality/negotiations/China – 8253
—market (European) – 5815
mechanical testing (dynamic) – 499
metal films/primers/adhesives/release papers – 1873P
NADs, acrylics, properties – 3366
peel strength, symmetrical double peel tests – 4464
peeling, theory/force/rates – 3622
performance, rheological parameters & – 500
polyamides/acrylics – 998P
polymerisation for, acrylates/polyfunctionals – 5053P
polyurethanes, initial pressure-sensitive – 5820P
radiation-curable
— 5453
—acrylics/formulation – 3805
—oligomers/chain transfer/nitrosoamines – 5469P
—polyether-urethanes (unsatd)/mercaptans – 5470P
—polythiol/polyenes – 8767P
—technologies, self-adhesives & – 9833
—technology/uses – 7810
silicones
—book chapters – 8264
—developments/new uses – 991
—temp (low/high) uses suitability – 3373
stabilisers, rubber/tackifiers/oils & – 5812
statistics/types/tapes producers/labels producers – 8839
stripping, after ultraviolet – 6598P
styrene polymers (hydrogenated)/block copolymers – 9280P
styrene/butadiene copolymers – 8250
tack
—determination/relationship other factors – 8587
—rolling cylinders/pulled cylinders – 9649
tackifiers
—book chapters – 8263
—cyclopentenylphenols polymers – 6593P
—rosin esters – 1522P
tackifiers (proprietary) – 5814
temperature (low), application/use, formulation – 9254
treatment, on substrates, paper recycling – 2973
two-component, adhesives/siloxanes (Si-H) – 9260P
types – 5046
ultraviolet-curable, acrylics/acrylates (carboxylated) – 3822P
vinyl ethers polymers – 8232

Pressure-sensitive Adhesives *(continued)*
viscoelasticity – 8584
water-borne
—acrylics – 5805
—acrylics, binary, humidity resistance – 9252
—acrylics, developments/tackifiers/uses – 3369
—acrylics, proprietary materials – 6582
—acrylics, testing, tapes/substrates – 4216
—graft copolymers, elastomers/thermoplastics chains – 5821P
—testing/factors affecting adhesion – 3371
Pressure-sensitive Copying
See copying entries & recording entries
Pressure-sensitive Labels
See labels
Pressure-sensitive Recording
See recording entries & copying entries
Pretreatment
adhesion – 6884
aluminium
—adhesion (wet) & – 2657
—adhesives/RH/adhesion/durability – 2822
—methods/adhesives over, comparison – 5863
—methods/powder coatings – 7490
aluminium alloys, coatings/weathering & – 6711
carbonates substrates, organo-silicons (fluorinated) – 3457P
chemicals for, manufacturers – 3063
chromium compounds, & silica/silanes/polymers products – 1744P
combination
—with stripping, bristles (carbide-tipped) – 6678
—with stripping, near-white metal from – 6678
concrete
— 9478
—detergents/org acids etc – 5100
—membranes removal/surfaces etching – 8372P
—methods – 7465, 7472
—standards – 8920, 8921
copper oxide/phosphorus compounds – 5892P
corona discharge – 316
directories (UK) – 3432
equipment, manufacturers (Indian) – 1037
expert systems, coatings selectors & – 3074
floors – 8511
for adhesives – 5042
for electrocoating, surfactants (fluorine-containing) – 9380P
for epoxies – 5120
for powder coatings
— 5797
—methods/salt spray/adhesion, etc – 5882
galvanised steel – 1033
guidelines, & time/energy etc saving – 312
hazards/precautions
— 6177
—cleaning/degreasing – 5355
—thermal/mechanical treatments – 5356
inspection – 7498
materials, companies – 2199
metals, reactive surfaces under liquids, then coatings – 6664P
micro-organisms problems avoidance – 8459
oxalic acid/chelating agents etc – 3455P
painting/decorating handbooks – 7931
paper board, corona discharge – 3440
phosphonic acids, amino group-containing – 2642P
pipelines
— 305
—procedures – 5092
pipelines (submarine), before corrosion inhibitors – 5161
plants (chemical) – 5132, 5149
plastics
—corona discharge – 3440
—electrical discharges/chlorinated compounds – 8364P
—flames – 2628
—for adhesives – 7418
—for inks, methods – 8352
—for printing – 5114
—ions bombardment – 7510P
—methods/selection/factors – 6637
—methods/surfaces characterisation/adhesion – 1041
—plasma polymerisation – 8348
—plastics types – 5867
—ultraviolet radiation – 5110, 5872
—ultraviolet radiation, furniture (garden) – 5877
polyethylene, permanganates/acids, adhesives & – 9349
polypropylene
—bonding to steel – 5868
—methods/surfaces characterisation – 1038
powder coatings
— 1680
—advantages – 7476
—corrosion resistance – 9476
power tools use
—equipment/operation/safety – 9368
—paints/mill scale etc removal – 9368
products/equipment – 5859
purposes – 7297
review – 4991
rust converters/stabilisation, v blasting – 9409
salts (soluble) removal – 2639
ships' hulls, equipment, dry docks – 1733
silanes/polymers/chromium(VI) – 5125P
silica/metals (trivalent) acidic – 325P, 1738P
specification, factors – 1725
steel
—abrasion/blasting etc, cathodic disbonding – 9429
—cleaning (manual) – 5098
—cleanliness grades, standards – 7924
—effects – 1725
—for epoxies/polysulphides – 8605
—surface condition/paint systems/corrosion resistance & – 5899
—surfactants, adhesion & – 4263
steel (rolled), descaling/cooling/residual heat tempering – 9387P
steel (zinc-coated), electrolysis chromium – 4286P
sulphonates, before phosphating – 1044P
washing (jet), pressurised water, decorating – 5857
waste water from – 579
wood, biodegradation resistance/water repellency – 8516
Pretreatment Primers
See wash primers
Prices
benzene/xylene/toluene, USA – 9924
costs & – 9908
fatty acids, forecasts – 7841

Prices *(continued)*
phthalic anhydride
— 3865
—demand decrease & – 7831
pigments (org), intermediates &, problems/increases – 7123
raw materials
—increases – 9903
—various – 3045
resins, supply situation &, factors – 8814
soyabean oil, increases/drought – 3135
titanium dioxide – 645, 3032, 3867, 7119, 7120, 7132, 7133
titanium dioxide (Indian) – 3866
Primer Sealers
ceramics tubes polyurethane joints sealing – 4447P
water-borne, styrene/butadiene copolymers (modified) – 5012
Primer Surfacer Compositions
See also surfacer compositions
for plastics, conductivity (electrical) – 7623P
over electrocoating (cathodic) – 2552P
water-borne
—epoxy/urethanes (modified) – 2552P
—polyols (urea etc groups)/maleinised products – 250P
Primers
See also anticorrosive, shop, wash & weldable primers
acetoacetates/blocked ketimines – 5140
acrylates/mercaptan groups – 4134P
acrylics (carboxylated, amino groups), fluoropolymers over – 3337P
alkyds, curing parameters/performance – 6740
application
—blasting simultaneous – 5140
—RH during/subsequent weathering – 1727
before fire-resistant coatings, for/against – 1830
before metal coatings – 1141P
before polyurethanes – 1148P
chromates, encapsulation – 2683
containers closures, epoxies – 9575
contaminants on, coatings over – 353
coupling agents (titanate)/fatty compounds – 6024P
cracks detection by – 1862P
discolouration inhibitors in – 4881P
electronic components, mercaptosilanes – 8531P
epoxies/chromic acid – 4353P
flexibility, temp (low), block copolymers (modified) – 469P
fluoropolymers/mineral spirits – 1858P
for adhesives, alkoxides hydrolysis – 4417
for aluminium
—acrylics (silyl)/polyolefins (modified)/silica etc – 6835P
—before inks, drawing tolerance – 2802P
—forming/food packaging – 6756P
for antifoulings, cementitious compsns – 6025P
for concrete, before polyurethanes – 452
for films (polymer)
—adhesives faster drying – 3556P
—heat-sealables over – 1844P
for oxide-containing substrates – 9606P
for plastics
—adhesives over – 3392P
—aldehydes/amines – 447P
—before adhesives – 1126P
—coating (in-mould) – 3563P
—ethylene/propylene copolymers (maleinised) – 7599P
for polypropylene – 8487
for powder coatings, polyimides/same resins – 4437P
for wood
— 6684
—sealants over – 6615
heat resistance, aminosilanes/epoxy silanes – 6023P
hexene polymers (modified) – 9113P
lead in, determination – 7690
moisture-curable
—polyurethane prepolymers – 4159P
—substrates penetration – 478P
—urethane prepolymers, topcoats over – 4330P
NADs, polypropylene (modified) – 8194P
petroleum resins/terpenes resins/copolymers – 7615P
phenolic resins/calcium zinc phosphate – 3599P
phenolics/polyvinyl acetal products – 1155P, 1156P
pigments, SEM – 9715
polyamides/polyimides, before polyimides – 3597P
polyester-urethanes – 173P
polyethylene (chlorinated)/acrylics – 1762
polymers (hydrophobic)/polymers (amide groups) – 2790P
polyurethanes – 1148P
powders over, before curing/topcoats – 7373P
siloxanes etc, solvents – 3986P
thermosetting, urethane pre-polymers/phenolics/halogenated – 1079P
ultraviolet-curable
—pipes (steel) – 8751
—pipes (steel), curing conditions – 8753
—pipes (steel), diluents/modifiers – 8752
vehicles (motor), chip resistance – 463P
vinyl alcohol polymers/silanes – 8032P
water resistance, vinyl chloride copolymers – 5242P
water-borne
—acrylics (amino-functional) – 408P
—adhesion to wood (weathered) – 6045
—asphalts – 4192P
—emulsions, acrylics/chlorinated rubber – 248P
—for plastics – 441
—for plastics, heat-sealables systems – 4407P
—polybutadiene/phenolics – 231P
—wollastonite (treated) – 3959
weathering, accelerated/urban, degradation – 6705
weathering (natural), various/electrochemical measurements & – 6693
Print Resistance
standards – 8899
Printability
– 1187
coatings
—before inks (water-borne) – 2790P
—printing (thermal) – 9629P
paper, smoothness parameters/reflectance – 3732
paper coatings
— 1843P, 9545, 9557P
—additives, epichlorohydrin products – 3557P
—additives, epichlorohydrin/unsatd acids etc – 5203P
—calcium carbonate – 3124P
—chitosan/other components – 8491P
—diene copolymers/acrylics – 5980P, 5981P

Printability *(continued)*
—dienes (conjugated) copolymers – 5208P
—dienes copolymers (carboxylated) – 3559P
—dienes polymers blends – 2758P
—dot patterns, latices (core/shell) – 1839P
—latices (alkali-soluble/-insoluble) – 6794P
—pigments blends – 9555P
—printing (gravure)/clays etc – 2755P
—printing (ink jet) – 5210P
—styrene/butadiene rubber – 4392
—undercoats/topcoats – 1838P
plastics, pretreatment – 9385P
release coatings – 481P
release coatings (ultraviolet-curable) – 9884P
water-bornes
—printing (thermal, transfer) – 9628P
—printing (transfer) acceptance – 245P
Printed Circuit Boards
adhesives
—before plating (electroless) – 2585P
—copper migration prevention – 269P
bismaleimides prepolymers, epoxy/novolacs & epoxies – 3583P
coatings
—before plating (electroless) – 1075P
—photosensitivity – 1594P
—polyamide-imides – 3589P
—polysulphone imides – 9631P
conductive coatings, aluminium alloys – 467P
conductive coatings etc, pastes – 3857P
conductive compsns, pastes – 3858P
conformal coatings, advantages/application/types etc – 1136
electrical insulation
—acrylics/solvents blends – 4371P
—polyamide-imides – 2744P
manufacture
—adhesion promoters – 3154P
—benzene/diphenylmethanes for strength – 5473P
—copper foils/metals bonding – 1002P
—epoxies (modified)/acrylates (modified) – 7096P
—epoxy/phenolics & bismaleimides – 9627P
—maleic copolymers/polymers (carboxylated) etc – 5471P
—metal coatings patterns – 2157P
—phenolics/polyvinyl acetal products – 1155P, 1156P
—photocurables – 7097P
—photocurables, acrylamide (substituted) – 3852P
—photoresists, water-bornes – 4652P, 4653P
—photosensitive compsns, polyamides (carboxylated) etc – 3010P
—polyamic acids/monomers etc – 3011P
—resists (permanent)/electroless plating – 5443
—resists, ultraviolet then thermal – 3850P
—solder mask coatings – 5994P
—ultraviolet-curables, acrylates – 3846P
photocurables
—adhesion promoters – 630P
—epoxy/novolacs (unsatd) – 5487P
photopolymerisables – 2152P
plastisols, migration resistance etc – 4249P
polyurethane coatings
—moisture resistance – 4370P
—photo-oxidation – 5156
prototype, manufacture, radiation-curables – 5445
repair, pastes, electron beam-curables – 3021P
ultraviolet-curables
—conformal coatings from – 1295
—photoinitiators – 7116P
Printed Circuits
adhesives (flame-retardant) – 9271P
bonding, copper foils & – 6824P
manufacture
—photocurables with conductivity – 5489P
—printing inks (ink jet) – 5837P
Printers
ribbons, inks, dispersants/viscosity stabilisers – 5067P
thermal heads, heat-resistant coatings – 1883P
Printing
See also 'printing, flexographic' etc (gravure, ink jet, lithographic, offset, pad, photogravure, rotogravure, screen, solventless, thermal & transfer) & driography
colour, pigments/colour standardisation/inks requirements – 3399
containers, methods comparison/uses – 2595
desktop publishing – 7929
emissions
—recovery/incineration – 2971
—UK, measures implementation/local authorities – 7053
materials for, companies (US) activities – 7185
metallic effects, matt coatings over – 9604P
neuropathy – 7039
of foils, colour matching, tolerance ranges – 5257
of plastics, pretreatment – 5114, 8352
phosphatides – 201P
quality assurance – 6281
wood block
—inks – 8296P
—inks (water-borne) – 8295P
Printing Industry
See also graphic industry
cancers, of skin, & typographers/journalists etc – 2960
US, forecasts, trade/investment/techniques position – 6247
Printing Ink Industry, Argentine
statistics/imports – 7835
Printing Ink Industry, Australian
statistics, exports/imports – 3872
Printing Ink Industry, Austrian
statistics – 650
Printing Ink Industry, Brazilian
statistics/imports – 7835
Printing Ink Industry, Chinese
imports – 5499
Printing Ink Industry, Colombian
statistics/imports – 7835
Printing Ink Industry, Danish
statistics – 651
Printing Ink Industry, Dutch
statistics – 2189
Printing Ink Industry, European
statistics/forecasts – 3039
Printing Ink Industry, French
statistics – 1336, 4686, 9916
Printing Ink Industry, German (West)
interviews, associations/trends etc – 4730
raw materials costs increases – 5493
statistics, exports/imports – 647
statistics/problems – 5504
Printing Ink Industry, Indian
capacity/market/raw materials – 8819
structure/factors influencing/capacity – 6245

Printing Ink Industry, Japanese
companies, details/statistics – 6269
financial performance of companies – 7174, 7178, 7181, 7222
statistics – 8820
statistics/growth areas – 6250
Printing Ink Industry, Mexican
statistics/imports – 7835
Printing Ink Industry, Swiss
foreign trade – 7144
Printing Ink Industry, UK
statistics – 4780, 7844
statistics/forecasts – 7840
Printing Ink Industry, Uruguayan
statistics/companies – 4690
Printing Ink Industry, US
process market shares/forecasts – 5495
statistics – 7188
statistics/forecasts – 6251
Printing Ink Industry, Venezuelan
statistics/imports – 7835
Printing Inks
See also inks
acrylic/urethanes – 1622P
additives, fluoropolymers particles – 1503
adhesion, on drawing, primers before – 2802P
adhesion promoters, zirconium compounds – 2304
air-drying compsns, drying on porous not machine – 3402P
aluminium silicate – 7960
analysis, history/role – 6096
azo dyes/azo pigments, blends, isoquinolones – 6379P
azo pigments
—lakes – 2270P, 3116P
—pigments (mixed) – 3129P
binders
—German companies – 9939
—synthesis Spain, plants (planned) – 5555
cans, spin necking tolerance – 3572
colorimetry/densitometry
—comparison – 5258
—paper & – 6853
colour matching
— 5256
—against standards, criteria – 3610
—computers – 6032
—software – 3602
colour strength, of pigments in – 485, 6029
cyclopentadiene polymers, synthesis – 4903P
developments
— 7428
—environmentally etc-induced – 7428
developments/trends – 8290
dioxazine pigments – 35P
directories (Italian) – 5607
dispersants, triazines, tricyclics (pendent) – 6424P
dispersants (polymeric) – 1513P
driography
—cyclopentadiene copolymers (modified) – 9303P
—epoxy compounds – 3403P
—titanium dioxide – 5065P
drying, emissions incineration/heat recycling – 9804
dyes (modified), by isocyanates – 278P
emissions
—determination/regulations/compliance – 4225
—statistics/regulations (Swedish) – 7204
fast-drying coatings – 277P
for cans, problems/requirements/ultraviolet-curable varnishes – 6602
for metals, sterilisation resistance – 4233P
for packaging, requirements – 271
for plastics
—epoxy/amine adducts – 1011P
—polyester-urethanes – 1006P, 7435P
—polyurethane-ureas – 8292P, 8304P
—surface tension effects – 2594
for rubber (vulcanised) – 9569P
fountain solutions, emulsification – 7005
FTIR, uses, troubleshooting – 9675
gelation
—effects/viscosity/solids content/tack etc – 5272
—solvents/resins selection – 3625
graft copolymers, polypropylene (chlorinated)/polyurethanes – 6520P
hazards, pigments/vehicles & – 7756
heat-set, suspensions containing gels – 4226
hydrocarbon resins – 95, 9073P
infrared (near) absorption, phthalocyanines – 3117P
infrared absorption & – 13P
infrared drying
— 2591
—equipment, capabilities/selection – 5060
ink jet
—acrylics (amino groups)/dyes etc – 9311P
—azo dyes – 5836P, 6383P, 6605P
—azo pigments (sulphonated) – 7433P
—azo pigments, non-clogging – 2269P
—carbonates (cyclic) – 9019P
—dimer acids/diamines/monoacids products – 9310P
—dyes (hydroxylated groups) – 9295P
—dyes/chelating agents – 1702P
—glassy colourants particles – 9298P
—phthalocyaninė pigments – 2603P
—phthalocyanines/sulphonamide groups – 8293P
—solvent blends (poor/good) – 5062P
—trialkylacetates, wetting etc – 5837P
—water resistance etc, dyes/antioxidants – 274P
ink stock manufacture, extrusion/diluents adding – 4240P
interactions, with paper, modelling – 4559
interpenetrating networks (semi-) – 2136P
isoindoline pigments – 7244P
isoindolinone pigments – 16P
joint ventures, USA, marketing Japanese – 6299
kaolin – 7960
liquids for, clarity/cleanness – 8898
luminescence, europium chelates – 1015P, 1710P
manufacture
—accounting/inventories/labelling etc – 7429
—automation – 5835
—German companies, investment/European sites – 5552
—pigments (aq) to non-aq then ingredients, direct – 3401P
—plants (new), South Korea – 7876
—solvents recovery – 7798
manufacturers
—French/UK mergers – 696
—process control (statistical) – 9290
—quality control – 6281
manufacturers (Canadian), trade names lists – 4224
manufacturers (Ecuadorean) – 7149

Printing Inks *(continued)*
manufacturers (French)
—financial performance – 5554
—subsidiaries of German – 4731
manufacturers (German, West), financial performance/activities – 7858
manufacturers (German) – 5539
manufacturers (Japanese)
—financial performance – 8840
—financial performance/activities – 7174, 7178, 7181
manufacturers (Spanish), acquisition Japan – 7842
manufacturers (UK)
—acquisition – 4729
—financial performance – 5542
—fires – 2067
—US/UK interests, acquisition – 7159
manufacturers (US) – 7188
manufacturers (US)/printing distributors (US), acquisition – 5569
market (European)/technology/companies/statistics – 8831
market (US)/growth rates/water-bornes etc – 5515
metallic
—aq systems – 1003
—manufacturers, businesses transfers – 673
—pigments behaviour/inks formulation – 7233
—printing (screen) – 8289
microcapsules, melamine resins walls – 5064P
modifiers, cobalt compounds/amines compounds – 9308P
newsprint
—canola oil – 3396
—developments affecting – 7431
—developments/critical parameters – 5059
—non-petroleum – 7430
—oils (proprietary) testing – 5834
—rub resistance – 1706P
—soyabean oil – 3135
phenolics (modified)/benzoguanamine resins (modified) – 9309P
pigment compsns
—disazo pigments/benzidine derivatives – 1469P
—dyes/pigments, rheology – 8996P
pigment pastes, pararosaniline (sulphonated) – 4232P
pigments, developments/proprietary – 7242
pigments (org)
—coated – 5625P, 5626P
—coated by oxides – 5624P
pigments (treated), by resinates/rosinates – 3979P
polyester acrylates – 8111P
polyester-urethanes – 1006P
polyurethane-ureas – 8304P
raw materials/manufacture equipment etc – 3395
regulations (US), formaldehyde & – 1398
removal
—from equipment etc – 343P
—from type – 1006P
requirements, properties, printing (colour) – 3399
resin acid salts/mercaptides/binders – 8298P
resins, manufacturers (US), acquisition by Dutch – 4732
rheology, flow cups – 1187
roller coating after, inks wet, one-side/two-side coatings – 9378P
rosin, tall oil v gum – 7427
rub resistance
—determination – 2040, 7006
—methylstyrene copolymers – 1009P
solvent blends, difluorotetrachloroethane/petroleum fractions – 1496P
soyabean oil – 3981, 4225
statistics/forecasts (UK) – 7840
surfactants (unsatd) – 804P, 805P
trade names, lists – 3397
vehicles, transport, drums (disposable) – 2123
wastes, return by printers, regulations (US) – 4624
watermarks – 9306P
waxes (micronised) – 2277
wood block printing, hydroxyethylcellulose – 8296P
Printing Inks, Electron Beam-curable
driography, silicones additives – 9895P
maleimides (polyfunctional)/butadiene polymers etc – 2173P
Printing Inks, Flexographic
powders, reconstitution in solvents – 2593P
water-borne
—advantages etc/special purpose – 1003
—newsprint – 5059
Printing Inks, Gravure
developments/forecasts – 5058
emissions, control/regulations (US)/technologies – 9818
manufacturers (US), acquisition – 3913
powders, reconstitution in solvents – 2593P
resinates (modified) – 1010P
water-borne
— 5058
—wallpapers etc – 9291
Printing Inks, Hot-melt
acrylics/dyes products – 7436P, 7437P
Printing Inks, Intaglio
soaps (metal) – 273P
Printing Inks, Lithographic
additives
—bisphenols (alkoxylated) – 9300P
—scumming/staining control – 6603P
amines – 1708P
emulsification, dampening/dielectric properties – 6968
interfacial properties, additives, polyethers – 9299P, 9301P
polybutadiene (modified)/polybutadiene – 9305P
resins (hard), mineral oil tolerance/properties – 272
testing, water uptake/behaviour prediction – 3708
Printing Inks, Offset
colour depth/colour strength/pigment concentration – 1179
pigments (treated) – 1456
Printing Inks, Radiation-curable – 7428
acrylic/urethanes, blends, polymers (hydroxylic) & – 1302P
acrylics/essential components/diluents (reactive) – 603P
for metals, sterilisation resistance – 4233P
fragrance, cyclodextrins/perfumes – 9873P
hazards – 7756
light (visible), photoinitiators – 5474P
pigments (white)/curability – 1323P
polyester acrylates – 625P
polymerisables/organo-silicons (unsatd) – 3023P
polyolefins (chlorinated)/polymerisables – 641P
silicones (unsatd)/compounds – 9894P
water-borne compsns
—for screen printing – 7115P

Printing Inks, Radiation-curable *(continued)*
—for screen printing, hydrogen donors – 7084P
—resins (various)/properties – 3001
Printing Inks, Screen
for food – 1005P
plastisols, formulation/advantages – 2590
removal, from equipment etc – 343P
resin acid salts/rhodium mercaptides – 8297P
rheology/surface chemistry/printing – 6862
stabilisers, phenols (hindered)/alkanolamines – 9294P
thixotropy, siloxanes binders/agents – 3406P
water-borne
—vinyl acetate polymers/diacetone acrylamide etc – 4227P
—viscosity adjustable/adhesives receptivity – 7115P
Printing Inks, Solventless
– 7428
Printing Inks, Ultraviolet-curable
advantages etc – 2591
advantages/colour newsprint – 2134
advantages/printing processes etc – 5427
driography
—silicones additives – 9895P
—ultraviolet-curables amine modification – 6242P
for cans – 6602
for plastics
—pretreatment – 9385P
—substrates for – 5430
market (Canadian) – 5412
Michael adducts, acrylates/amines – 2138P
photoinitiators (proprietary), benzophenones blends – 3804
water-borne compsns, ink jet, liquid crystals, temp indication – 5405
Printing Inks, Water-borne
– 8290
acrylics/metal ions (polyvalent) – 3404P
advantages/pH dependence/comparison solvent-bornes – 2592
azo dyes, piperazine/naphthol – 6604P
azo dyes (sulphonated) – 6612P
ethylene/vinyl chloride copolymers – 3348
for plastics
—considerations – 2592
—plastics modification – 8041
—wetting promoters/adhesion – 5063P
for polyethylene – 9292
graft copolymers, polyesters (unsatd)/acrylates (alkoxylated) – 4182P
image density, urea derivatives/maleic polymers – 8294P
ink jet
—azo dyes – 3409P, 6604P, 6605P
—azo dyes (sulphonated) – 6612P, 9320P
—colloids/stabilisation (steric) – 8291
—colourants (low solubility)/cosolvents – 1004P
—dyes (hydroxylated groups) – 9295P
—dyes/antioxidants – 276P
—dyes/ketoacids salts etc – 5061P
—dyes/vesicles – 280P
—epoxies/dyes particles – 9304P
—phthalocyanine pigments (carboxylated) – 6606P
—phthalocyanines (sulphonated) – 7432P
—polyols/dyes/surfactants – 1007P
—substrates for – 9312P
—substrates treatment – 8302P
interpenetrating networks – 279P
latices/modified polymers – 275P
market (European)/technical constraints etc – 8834
market/forecast growth – 5838
newsprint
— 1703P
—transmission measurements/model systems – 2589
oleophilics/hydrophilics/petroleum sulphonates – 1703P
parinari oil products – 3398
phthalocyanine pigments – 2603P
pigment concentrates, acrylics/pigments – 7959
pigments
— 7957
—developments/proprietary – 7242
pigments (org), ordinary/treated/compositions comparison – 2929
pigments (treated) – 1456
pigments/calcium carbonate (modified) – 1704P
polyamides/fragrance – 8214P
polyester-amides (sulphonated) – 9293P
polyesters (sulphonated) – 9293P
polyesters/polyurethanes concentrates – 4228P
polyethers/polyesters (sulphonated) – 4230P
polymers/alkaline compounds/amines – 1705P
polyvinyl acetate/polyesters (sulphonated) – 4229P
printability, coatings for – 2790P
situation/US market share/problems etc – 5515
thickeners, polygalactomannans (modified) – 2508P
trisazo compounds (sulphonated) – 9320P
vesicles, dyes in – 280P, 3405P
wetting by, eg plastics/water-repellent paper – 3404P
wood block printing
—fatty acid esters/alkalis etc – 8295P
—hydroxyethylcellulose – 8296P
Printing Pastes
isoindoline pigments (imino) – 12P
polymers particles/polyamide-imides solutions – 7434P
radiation-curables, conductivity (electrical) – 3857P
rheology, polysaccharides – 1898
siloxanes (functional)/siloxanes (Si-H) – 6607P
stabilisers, phenols (hindered)/alkanolamines – 9294P
thixotropy, polyamide-imides solutions/resins particles – 4231P, 9296P, 9297P
Printing Plates
developed, detackification, by electromagnetic radiation – 6609P
development, by printers (thermal) – 5072P
manufacture
—acetals/acid generators – 7098P
—acid generators/acid-sensitives – 8793P
—acrylic/urethanes & dyes initiators – 3831P
—anilides groups/novolacs/polyethers etc – 7103P
—binders/pivalates groups/diazo resins – 5467P
—fluorans etc – 610P
—heterocyclics/trihalomethyl/dyes – 5466P
—iodonium/aminoketones/nitrogen compounds – 6234P
—novolacs & novolacs/diazoquinones – 6235P
—photocurables – 4646P
—photocurables, triazines/heterocyclics – 2146P
—photoresists – 1322P
—photoresists, acrylamide copolymers – 3844P
—photoresists, acrylics/azides – 5465P

Printing Plates *(continued)*
—photoresists, photoinitiators – 1304P
—polyethers (unsatd)/acrylonitrile products – 6216P
—polyolefins/drying oils etc – 1328P
—water-bornes (high-solids) – 244P
photochemistry – 4636
photocurables
—diene polymers/polyolefins/unsatd – 3020P
—inks (water-borne) & – 3020P
photopolymerisables, photoinitiators – 2160P
photosensitive compsns, dichromates/polyvinyl alcohol etc – 9875P
polymers, surfaces sulphonation/lasers imaging – 8301P
recording materials (heat-sensitive), waxes etc – 6613P
substrates, hydrophilicity, carboxylates – 8525P
surfaces etc, characterisation/printability – 6989
Printing, Flexographic
newsprint, problems/avoidance etc – 7438
Printing, Gravure
emissions, control/regulations (US)/technologies – 9818
overprint varnishes (electron beam-curable) – 5433
overprint varnishes (ultraviolet-curable) – 5418
Printing, Ink Jet
inks
—acrylics (amino groups)/dyes etc – 9311P
—azo dyes – 5836P, 6383P, 6605P
—azo pigments (sulphonated) – 7433P
—azo pigments, non-clogging – 2269P
—carbonates (cyclic) – 9019P
—dimer acids/diamines/monoacids products – 9310P
—dyes/chelating agents – 1702P
—glassy colourants particles – 9298P
—solvent blends, poor/good – 5062P
—water resistance etc – 274P
inks (ultraviolet-curable), liquid crystals/temp indication/water-bornes – 5405
inks (water-borne)
— 6604P
—azo dyes – 3409P, 6605P
—azo dyes (sulphonated) – 6612P, 9320P
—colloids/stabilisation (steric) – 8291
—colourants (low solubility)/cosolvents – 1004P
—dyes (hydroxylated groups) – 9295P
—dyes/antioxidants – 276P
—dyes/ketoacids salts etc – 5061P
—dyes/vesicles – 280P
—epoxies/dyes particles – 9304P
—phthalocyanine pigments – 2603P
—phthalocyanine pigments (carboxylated) – 6606P
—phthalocyanines (sulphonated) – 7432P
—polyols/dyes/surfactants – 1007P
—substrates for – 9312P
—substrates treatment – 8302P
nozzles, wear-resistant around orifice – 9583P
paper coatings for – 5210P
phthalocyanines, sulphonamide groups – 8293P
substrates for
—coatings, pigments (inorg/org) – 9319P
—polyvinylformamides sheets – 9317P
trialkylacetates, wetting etc – 5837P
Printing, Offset
hazards, isopropanol exposure/ventilation – 5283
Printing, Screen
conductive inks, lines uniform height – 3400P
of plastics – 2594
pastes
—polymers particles/polyamide-imides solutions – 7434P
—thixotropy, polyamide-imides solutions/resins particles – 9296P, 9297P
printing inks (metallic) – 8289
printing pastes, thixotropy, clogging avoidance – 4231P
resists, epoxy/novolacs etc – 1008P
screens (coated), patterned support between screens/substrates – 2602P
screens for, coatings for – 7813P
screens manufacture, ultraviolet-curables – 8765
stencils for, photoresists (water-borne) – 4669P, 4670P
stencils for coatings/curing agents – 812P
thickness variations – 2602P
wastes (hazardous), regulations (US)/options etc – 5394
Printing, Thermal
inks, naphthylsuccinic acids (carboxylated) – 9323P
inks (hot-melt), acrylics/dyes products – 7436P, 7437P
Printing, Transfer
thermal
—substrates for, coatings – 9629P
—substrates for, water-bornes – 9628P
—tapes, coatings, acrylics/siloxanes & siloxanes – 2800P
thermal acceptance sheets, coatings/printability – 245P
Prisma
acquisition, by Dai-Nippon/Sun – 7842
Product Liability
hazardous materials/transport – 1399
regulations, EEC/UK comparison – 1333
regulations (Italian) – 9970
regulations (UK)/EEC directives – 9972
Productivity
powder coatings manufacture – 8234
quantification/improvement – 6248
Productos Quimicas Elekeiroz
joint ventures, maleic anhydride – 681
Products Research & Chemical Corp
acquisition, by Courtaulds – 7904, 9955
Profitability
chemicals (speciality), USA – 6280
Programmable Devices
See also computers, calculators, microprocessors & robots
Propanediols
ether acetates
—GC, purity/impurities/residual ethers – 8926
—specification – 8936
ethers
—alkyds concentrates properties – 9010
—GC, purity/impurities – 8926
—polyurethane coatings – 790
—solvents – 2291
—synthesis – 3988P
—water-bornes for wood – 7390P
—water-bornes, properties – 7992
glycol ethers, specifications – 8938
polyesters (unsatd), trace components effects/side reactions – 6440
Propanol
water in, determination – 1960

Propargyl Alcohol
polymerisation, catalysts – 4061
Propargyl Compounds
bisphenols ethers, polymerisation/coatings – 9477
Propargyl Groups
heterocyclics, polymers, photoconductivity – 9171
terminal, ethers, synthesis/properties – 6445
Propellants
aerosols – 7605
hydrocarbons, fire hazards, views – 6188
Propellers
coatings, cavitation resistance – 5245P
coatings/cathodic protection – 5944
Propiolactones
polymerisation (anionic), kinetics – 2394
Propylamines
toxicology – 5372
Propylene
polymerisation, catalysts, Ziegler-Natta/transition metals – 3215
polymers
—grafting (two-stage), monomers/unsatd peresters – 7299P
—grafting without secondary agglomeration – 5676P
—polymers/peroxide groups & – 4027P
polymers (modified), powder coatings – 5038P
Propylene Copolymers
carboxylated, synthesis/rheology – 9647
composition, pyrolysis/GC – 6112
pressure-sensitive adhesives (hot-melt) – 3375
Propylene Glycol
See propanediols
Propylene Oxide
effluents, regulations (US) – 2972
polymerisation, carbenium ions, methoxyphenylmethylium – 3234
synthesis, carboxylic acids same time – 2289
Protective Clothing
See clothing
Proteins
carboxylated, soyabeans, paper/board coatings – 4393
grafting, with monomers, latices by – 6437P
odours, coatings against – 8546P
overspray treatment, water washes – 5396P
polymerisation presence, polymers over proteins – 6437P
printing inks, for food – 1005P
soyabeans, types/cross-linking/testing – 4003
synthetic, mussels adhesives analogues – 5804
Public Relations
health/hazards/compliance etc – 7849
paints, effectiveness/Verband der Lackindustrie – 1382
plants (chemical), pollution control & – 7787
Pullulan
acetylated, coatings, heat exchangers fins – 9615P
Pulp
mills for
—coatings – 7533
—concrete degradation – 2679
—contaminants on substrates – 2639
—painting, problems/systems/maintenance – 7482
Pulp Chemicals Association
activities/meetings sponsored by – 3038
Pultrusion
See extrusion
Pumps
combination, with filters, media/pumps selection – 6627
developments, for paint manufacture/painting – 1032
diaphragm, metering, leakproof – 8321
efficiency, improvement/companies/coatings – 9420
gear, viscous products – 7462
manufacturers, interviews/products/strategy – 5560
metering – 4250
pipes, linings – 7540
proprietary, exhibitions (German) – 6205
types/paint manufacture/choice – 2623
vacuum, maintenance/problems/measures – 7666
Purification
calcium carbonate (natural) – 3971P, 3972P
caprolactam, pigments from wastes – 4834P
cellulose ethers – 9189P
epoxies, halogen (residual) removal – 4081P
glycidyl acrylate – 4085P
glycidyl methacrylate – 4085P
phosphates, synthesis & – 67P
vinylpyridine copolymers, supercritical fluids – 2481P
water, methods for laboratories – 7659
xylenols, isomers separation – 4864P
Purity
clarity/cleanness – 8898
Pylons
electricity, cathodic protection – 370
Pyrazoles
azo compounds, photoresists – 1324P
Pyrazolines
optical brighteners – 3151P
unsaturated, optical brighteners – 3151P
Pyrazoloquinazolones
synthesis – 8005P, 8006P
Pyrene
photosensitisers, acrylates photopolymerisation – 6211
Pyrethroids
coatings – 1816P
wood preservatives – 2730
Pyridazines
solventless coatings, maleimides etc & – 256P
Pyridine
derivatives, polyisocyanates (blocked) from – 6510P
groups, main chain, polyethers – 1560
substituted
—complexes, colourants – 3103
—styryl (two), groups (main chain), polyesters – 1294
Pyridine Oxide
derivatives, wood preservatives – 5183P
mercapto groups, antimicrobial activity – 1818P
Pyridinium Compounds
from pyrylium – 3287
styryl-substituted, groups (main chain), photosensitives – 1294
Pyridinium Groups
pendent, initiators (polymeric) for orthoesters – 7343
polymers, from bis(pyrylium)/diamines – 3287
Pyridinium Salts
catalysts, polymerisation (cationic) – 7295P
Pyrocatechol
stabilisers, for trichloroethane – 1502P
Pyroelectricity
polymers, uses – 2342

Pyrolysis
acrylics – 8635
analysis by, multi-component – 6112
cellulose, mechanisms – 8177
fluoropolymers, presence fluorination, low MW polymers from gases – 5771P
paint stripping – 8377
products, organic products, hazards – 7027
Pyrolysis Products
cellulose – 8177
of polyvinyl chloride, toxicity – 1273
paints, GC/MS – 9673
polyesters (unsatd), from bicycloheptenes (chlorinated) – 2413
polystyrene, volatiles (flammable) reduction – 5677
Pyrolysis/Gas Chromatography
acrylics, composition – 9724
combination
—with GPC, polymers – 7658
—with MS, linoleates/alkyds – 8087
—with MS, review/composites – 1981
copolymers, composition – 6944
equipment/techniques/polymers – 1951
multi-component systems – 6112
polyether-esters, analysis by – 6095
polymers
— 8957
—characterisation/degradation kinetics – 3669
—identification/proposed databases – 8612
—methods (new) – 6065
styrene/butadiene copolymers – 8612
vinyl acetate copolymers, composition by – 4530
Pyrolysis/Mass Spectroscopy
epoxies, & epoxies (cured) – 524
polymers, identification, packaging materials – 5299
polyurethanes – 3285
Pyromellitic Acid
corrosion by, & materials choice – 382
Pyromellitic Dianhydride
polyimides, heat-resistant coatings – 2478P
synthesis
—oxidation/catalysts – 1499P
—pyrolysis/decarboxylation in – 1498P
Pyromellitimides
phthalocyanines synthesis presence – 2274P
Pyromellitonitriles
complexes (charge transfer), polyvinylcarbazole & – 2604P
Pyrroles
conductive polymers, formation on films – 9547P
electropolymerisation
— 4006
—electrodes (selective) from – 1934
—presence acrylics, doping/sandwiching – 5738
polymerisation, by metal halides – 174P
polymerisation (oxidative), in oxides – 8047
substituted
—electropolymerisation – 6492
—synthesis/electropolymerisation/conductivity – 4959
Pyrrolidines
groups, cross-linking – 2456, 2457
Pyrrolidinium Groups
pendent, initiators (polymeric) for orthoesters – 7343
Pyrrolidonecarboxylic Acids
salts, printing inks (water-borne) – 5061P
Pyrrolidones
cleaning compsns, water barriers on baths – 5124P
electropolymerisation, nickel deposition simultaneous – 8225P
groups
—polymers (water-soluble), coatings – 3592P
—vinyl alcohol copolymers – 443P
N-methyl derivatives, oxygen inhibition reduction – 3000
paint strippers – 8378P
paint strippers (water-borne) – 4297P
substituted, polymers, coatings, heat exchangers – 6014P, 6015P
Pyrrolopyrroles
derivatives
—diketo, optical constants/films (polymer) colour – 2808
—diketo, pigments, properties/proprietary – 4818
—diketo, pigments, structure/properties – 7954
—diketo, pigments, synthesis, routes/mechanisms – 7232
—diketo, solid solutions, quinacridones & – 1466P
—diketo, synthesis – 7243P
Pyrylium Compounds
photoinitiators, benzoin derivatives & – 6232P

Q

Q & e Values
organo-tins (unsatd), acryloyloxybenzoates – 8161
QC Colours
acquisition, by Manders – 4729
Qilu Petrochemical Co
plants, solvents – 4712
QIT-Feret Titane Inc
– 3915
Quality
assurance
— 2043
—anticorrosives/aircraft/finishing – 9445
—automobiles manufacturers – 9948
—BSI standards, advantages/case histories – 7847
—BSI standards/approval, adhesives manufacturers – 2034
—BSI standards/implementation – 2037
—BSI standards/raw materials suppliers – 2205
—BSI standards/registration – 2015
—BSI standards/training – 2217
—distributors/stockists, BSI registered stockists – 7848
—European approach/modules/CE – 9742
—expert systems – 2216
—inks manufacturers – 6281
—ISO standards/registration, Tioxide – 2208
—painting, personnel certification – 4736
—pipes coatings – 8350
—plants (industrial), books – 10005
—printing – 6281
—radiation curing monitoring – 5305
buildings – 8812
printing inks manufacturers – 9290
process commitment programme, implementation – 7708
standards, paints, Philippines – 7124
wood (treated), requirements – 5596
Quality Control
– 2043
automation/paint manufacture – 1723
coatings application, standards – 5597
coil coatings – 8334

Quality Control *(continued)*
dispersion assessment/rheology – 2010
equipment (proprietary) – 7448
expert systems – 2216
implementation/communication – 2013
industrial finishing, testing (on-line) – 2047
instruments for, & paint manufacture/standards – 2033
paint manufacture – 2024
pigments – 2807
raw materials – 7259
sampling/testing errors, quantification/statistics – 1252
training & – 2217
transparent coatings, fluorescence – 6672P
ultraviolet-curables, curing monitoring – 2127
Quantum Chemicals
divestments, Emery oleochemicals – 5562
Quartz
See also silica
health & safety, standards/review – 1422
particle size distribution, curve fitting – 3740
powders, standards – 3088
toxicology, review – 1422
Quercetin
derivatives, rust conversion – 7100P
Quick-drying Coatings
See fast-curing/fast-drying
Quimigal Group
divestments possibilities – 9957
Quimilac SA
acquisition, by ICI Paints – 3914
Quinacridone Pigments
beta-, modified – 8978P
components, Raman spectroscopy/microscopy – 9663
dispersions, dispersants – 8993P
manufacture
—phosphates groups/treatment – 1470P
—plants expansion, USA – 4718
manufacture/properties/uses – 8973
treatment, by plasma – 1463
types/composition/properties/uses – 8965
Quinacridones
plasma polymerisation, coatings etc by – 9152P
pyrrolopyrroles &, solid solutions – 1466P
Quinazoloquinolines
from anthranilic acid – 752
Quinoline
derivatives, dermatitis (contact) – 552
polymers, cross-linked/fused rings, conductivity (electrical) – 9142P
substituted, electropolymerisation – 8122
Quinone
derivatives
—chemically-bound, photoresists – 7117P
—diazides, products with novolacs – 6235P
—epoxies modified by – 8803P
—groups (pendent), photoresists – 7111P
—photoresists – 7104P, 8804P
—polymers, photoresists – 8790P, 8791P
ketals, polymerisation, examples – 6425
polyether-amines, from resorcinol derivatives & – 5740
Quinoneimines
photoresists, acrylics & – 2161P

R

Radiation
See also electron beam(s), gamma-rays, infrared, ions, light, microwaves, neutrons, ultraviolet radiation & X-rays
bleaching by, deliberate, diazonium salts/polymers etc – 1311P
corrosion & – 5913
effects/coatings resistance to – 5913
epoxies/polyethers &, degradation/cross-linking – 3002
hazards – 7775
high energy, coatings resistant to – 361
high-energy
—polymerisation (cationic) by – 2378
—polymerisation, review – 3814
ionising
—controls/measurements, organisations – 7921
—polymerisation by, materials for adhesives – 6597P
Radiation Curing
See also electron beam, infrared & ultraviolet entries
advantages etc/converting industry uses – 5453
advantages etc/uses/equipment statistics (US) – 5441
combination, with thermal – 4983P
equipment, installations statistics – 5441
equipment/materials, Japan – 3810
Japan
—situation/research – 3795
—UK visits to – 3794
materials for, statistics/forecasts, US – 7140
monitoring
—labels/colour changes – 5446
—techniques/comparison – 5305
statistics (Japanese) – 3810
types – 3811
Radiation-curable Coatings
See also anticorrosive, coil, flame-retardant, paper, polyurethane, release & wire coatings, primers & metallic finishes, & electron beam, infrared, photocurable & ultraviolet entries
abrasion resistance
—for plastics – 629P, 7093P
—nitrocellulose (unsatd) – 7811P
acrylates (polyfunctional), phosphates (unsatd) & – 628P
acrylates (polyfunctional)/bisphenol (alkoxylated) acrylates – 621P
acrylic/urethanes (sulphonated) – 2154P
acrylics, tricyclodecyl/tricyclodecenyl (pendent) – 623P
acrylics (functional)/monomers, tack (dry) – 622P
adhesive tapes, glycol ether acrylates/epoxies etc – 2177P
developments/defects/avoidance – 8761
diluents (reactive), oxazolidones (unsatd) – 2141P, 2142P, 2143P, 2144P, 2145P
enamides (alkenoyl) polymers – 8022P
fluoropolymers (unsatd) – 7083P
fluoropolymers/unsatd carboxylics products – 9850P
for paper (synthetic) – 6796P
health & safety, measures – 5375
holograms with – 9552P

Radiation-curable Coatings *(continued)*
hydroxyalkyl acrylates/acid chlorides products – 1591P
market/growth – 5508
matt
—acrylates (polyfunctional) etc – 621P
—by curing contact rough releasable – 9852P
optical fibres, acrylics (fluorinated)/acrylates (fluorinated) – 1313P
phosphates (unsatd)/polymerisables – 2166P
polymers (unsatd)/hydrophilic monomers – 5461P
propargyl ethers polymers – 9477
silanes (unsatd) condensates/acrylates, silica & – 8787P
siloxanes (unsatd)/siloxanes – 2503P
water-borne
—materials for, approaches – 9835
—phenothiazine derivatives – 6219P
—resins (various)/properties – 3001
Radiation-curable Compositions
See also adhesives, hot-melt adhesives, inks, overprint varnishes, pressure-sensitive adhesives, 'printing inks, radiation-curable', printing pastes & sealants
acrylates, of norbornane derivatives – 5642P
acrylates (modified), by lactones/melamine – 6236P
acrylates (polyfunctional), exposure/precautions – 5370
acrylic/urethanes
— 9872P
—blends, polymers (hydroxylic) & – 1302P
—diluents (reactive) effects – 9848
—isocyanate groups – 9871P
acrylic/urethanes (hydroxylated) – 9870P, 9871P
acrylic/urethanes (modified), by siloxanes – 932P
acrylics (fluorinated
—modified) – 8792P
—unsatd)/fluorocarbons (unsatd) – 617P
adhesion, monomers/phosphonates (unsatd, acidic) – 5484P
anti-misting coatings, polyether acrylates/melamine products – 6220P
colour generation on curing – 8810P
conductive coatings, acrylates/oxides (silanes-coated) – 2794P
epoxies (unsatd)/epoxies (ammonium-containing) – 5463P
epoxies/tetrahydrofuran – 6228P
epoxies/urethane precursors/monomers/mixed curing agents – 9876P, 9877P
epoxy/acrylates – 5428
epoxy/acrylates (modified), by rubber – 5425
esters (polyfunctional), unsatd/silyl groups – 8789P
flexibility, acetals (difunctional)/acid generators – 7098P
graft copolymers/polymers/epoxy esters (unsatd) – 8768P
initiators, dyes/reactive counterions – 7106P
magnetic coatings, acrylic/urethanes & hydroxylics – 2140P
market (European), statistics/uses/future – 5410
market (Japanese), electron-ics/telecommunications/companies – 3803
markets – 5442
melamine resins (modified), by acrylates (hydroxylated) – 8149P
novolacs/diazoquinonesulphonates, stabilisers & – 3832P
oxygen inhibition reduction – 9886P
polyamines (unsatd), pendent unsatd/hydroxyl – 5758P
polycarbonates (unsatd) – 4937P
polyester acrylates – 8111P
polyols (fluorinated) – 5423
polysaccharides/polyvinyl alcohol (acetoacetylated) – 3332P
polyurethanes, catalysts (latent) – 8144P
polyurethanes (unsatd, carboxylated) – 8769P
polyurethanes (unsatd)
— 6513P
—ethers/esters segments – 6243P
printed circuit boards (prototype) – 5445
raw materials, joint ventures – 7901
recording materials (magnetic)
— 624P
—acrylic/urethanes – 1317P
regulations relevant to, chemicals – 5454
siloxanes, adhesion promoters – 71P
siloxanes (amino-functional)/urethanes (unsatd) products – 642P
siloxanes (mercapto)/acrylates (polyfunctional) – 4983P
siloxanes (Si-H) – 4984P
solder mask coatings – 7110P
statistics/forecasts, US – 7140
statistics/uses
— 8827
—Europe – 7137
tackifiers – 635P
transparent coatings, cost/performance analysis – 5496
uses, examples (successful), Japan – 5449
water-borne
—acrylics/dyes as initiators/sensitisers – 6217P
—maleic copolymers (modified) – 4653P
—phenothiazine derivatives – 6218P
Radio Frequencies
shielding against
—conductive pigments – 7953
—conductive pigments, nickel-based – 3960
—sealants (conductive) – 9324
Radioactive Materials
nuclear installations, strippable coatings – 1147P
Radioactivity
resistance to
—& decontamination tolerance – 8502
—coatings – 8503
—diisocyanates products – 7351P
Radiochemistry
techniques, review – 6061
Radius of Gyration
See also unperturbed dimensions
polystyrene macromonomers polymers – 7304
Radon
buildings (domestic), UK – 576
Railway Stock
anticorrosives – 5158
blasting – 1729
hopper cars, coatings (internal) application – 3090
passenger, pretreatment/filling compsns/coatings – 1778
ventilation, during bags loading – 5350
Railways
Italian
—anticorrosives, zinc phosphate – 1069

Railways *(continued)*
—corrosion control – 5158
Japanese, concrete (reinforced), corrosion/repair – 7526
underground
—fires, escalators/King's Cross – 1390
—fires, escalators/King's Cross/cyanides – 5354
Rain
erosion by, testing, aerospace, standards – 3942
painting – 2633
resistance, coatings, isocyanates (blocked)/polymers – 8551P
staining &, resistance to – 9480P
Raman Spectroscopy
combination
—with microscopy, pigments – 9663
—with microscopy, uses/review – 8617
corrosion products – 8615
data re-use, different slit function corrections – 4514
dicarboxylic acids, in solvents/aq alkali – 1203
dyes (sensitising), in photographic films – 6052
features/merits, Fourier transform & – 525
Fourier transform
—combination with microscopy – 6047
—comparison scanning non-Fourier – 9676
—features/merits, conventional & – 525
—infrared (near), equipment/uses – 1210
—infrared (near), examples/no fluorescence – 8636
—infrared (near)/lasers – 6047
—near-infrared, remote via optical fibres – 3644
—uses – 8616
microanalysis, dyes/pigments identification – 5286
polymers, book chapters – 1991
sulphur dioxide, detection by – 3639
surface-enhanced
—on silica (coated) particles substrates – 6886
—principles/requirements/uses – 6913
—techniques etc – 8629
surfaces, detectors (multichannel) – 520
Ransburg-Gema Pumpen GmbH
inteviews, products/strategy etc – 5560
Rapeseed Oil
canola oil, inks, newsprint – 3396
statistics – 661
Rapid-drying Coatings
See fast-curing/fast-drying
Rapid-drying Compositions
See fast-curing/fast-drying
Rare Earths
See also lanthanides & driers (rare earth)
production/producers/processing/uses/statistics – 2260
Raw Materials
– 7260
adhesives
—proprietary materials, details two thousand plus – 7218
—situation – 6284
costs, increases causes – 3037
directories (European) – 10007
directories (French) – 5600
directories (Italian) – 5607
ethylene, & derivatives, situation/paints uses – 3036
for adhesives, directories (American, North) – 7854
for paints
—India, manufacture/requirements/exports – 1354
—manufacturers (US) of, current situation/future – 203
—manufacturers share prices – 7832
—USA demand forecasts – 1351
for polyesters – 7314
for polyurethanes – 1605
formulation/inventories etc, computers – 3336
lignin – 73
manufacture, paint manufacture &, review/USSR – 1028
market/technology forecasts, year two thousand – 1331
paint industry, data sheets (health & safety) – 4800
paint industry (Russian), shortages/variety of paints – 1649
paint industry (US) – 3333
paints
—concerns/quality – 7259
—directories (Canadian) – 4990
—directories (US) – 4146
—materials/companies – 5529
—prices increases – 9903
—prices/supply problems – 7152
—problems – 4674
—proprietary products, details four thousand – 7219
prices
— 3045
—environment/health measures & – 5493
printing inks, directories (US) – 3395
proprietary – 670
trade names, Canadian lists – 7259
Reactivity Ratios
book chapters – 2371
butyl methacrylate/methyl methacrylate – 6434
cyanoacrylates/vinyl ketones – 9131
ethyl hydroxymethylacrylate – 5719
isocyanates (unsatd) – 4096
isocyanatoethyl methacrylates – 1921
maleic anhydride/methyl methacrylate – 4038
methyl hydroxymethylacrylate – 5707
methylstyrene (para-), bimodal MWD, two sets – 6436
organo-tins (unsatd), acryloyloxybenzoates – 8161
oxadiazoles (unsatd) – 9125
pentamethyldisilylstyrenes, & alpha-methyl analogues – 9173
phosphates (unsatd)/acrylates – 190
phosphazenes (unsatd) – 1106
polymerisation (anionic) – 2373
styrene/dicyanostyrene – 4101
styrene/diethyl fumarate – 7068
styrene/methyl methacrylate, initiators concentration & – 2404
styrene/tricyanostyrene – 4101
styrene/vinyl acetate – 5696
vinyl acetate/butyl acrylate – 3222
vinyl acetate/itaconic – 5706
Reactors
aerosols, modelling – 6
alkyds synthesis, monitoring/control – 9336P
automation, pilot plants/data logging & analysis – 1722
carbon black manufacture – 7978P

Reactors *(continued)*
emulsion polymerisation
—copolymerisation, conversion monitoring, headspace – 2367
—copolymerisation/modelling – 1547
—modelling – 2352
emulsion polymerisation (continuous)
—modelling – 2352
—modelling/experiments – 2353
flow
—emulsion polymerisation modelling – 8039
—hydrolysis, supercritical pressure – 8175
flow-through, stirred, gas recirculated amount – 3427
heat transfer, data analysis/scale-up – 295
mixing – 7455
phthalic anhydride synthesis, design/safety – 9774
plasma polymerisation, deposition rates, factors – 1541
plasma treatment – 6674P
polymerisation
—control/estimation, review – 78
—factors/stability/safety/selectivity – 2354
—isoprene, reactors series/single condensers – 5690P
—linings, dyes etc – 827P
—methyl methacrylate, gel effect/modelling – 4055
—modelling final stages – 1534
—on-line measurements/predictions – 839
—particle size during – 6138
—semi-batch processes, control, adaptive predictive – 80
—wall build-up control, coatings – 5995P
—wall build-up prevention – 827P
polymerisation (continuous), anionic, styrene – 4032
polymerisation (group transfer) – 4046
polymerisation (semi-continuous), temp control/algorithms – 1527
stirred
—continuous flow, polymerisation, MWD prediction – 9051
—continuous processes, modelling – 2353
—emulsion polymerisation (continuous), comonomers/modelling – 3200
—emulsion polymerisation (continuous), copolymers – 4023
—polymerisation (continuous), conditions prediction/troubleshooting etc – 1523
—polymerisation (continuous), products parameters calculation – 1555
suspension polymerisation – 3166
systems design – 1720
titanium dioxide manufacture, chloride process – 5628P
tubular
—polymerisation, modelling – 1536
—polymerisation, wall flow, monomers (water-soluble) – 1545P

Recording
See also 'recording, electrostatic, heat transfer & magnetic'

Recording Materials
acetylenes (polyfunctional)
—radiant energy imaging – 5841P
—radiation imaging/light stability – 5840P
colour formers, fluorans – 4239P
dyes, review – 7235
materials for, companies (US) activities – 7185
optically-readable
—coatings, silica layers – 9561P
—holograms, reversible – 6608
—microscopy images storage – 9701
—optical scanning systems – 2994
—photopolymerisables – 2131
—replication, photo-crosslinking & – 3806
—tapes, coatings requirements – 4234
—writing presence magnetic, anticorrosives – 5066P
photochemistry – 4636
photochromic compounds – 8299P
photopolymerisation, presence preformed – 5435
pigments, dihydroquinolinediones quinonimines complexes – 3122P
polyesters, liquid crystals type, lasers writing – 281
silanes (polymeric), silyl groups (pendent) – 2506P
transcription agents, phosphazenes/polymerisable radicals – 5843P
water-bornes, before disazo – 1016P

Recording Materials, Heat-sensitive
colour formers, fluorans – 4239P
colourants, in fusibles, polymers solutions/latices & – 2600P
complexes (charge transfer) – 2604P
phthalides, anilino/diphenylethylene groups – 5071P
printing plates, waxes etc – 6613P
printing plates manufacture – 5072P

Recording Materials, Magnetic
abrasion-resistant coatings, zirconium oxide – 1014P
amines/phosphates etc – 1713P
anticorrosives – 1017P
backing coatings, siloxanes (unsatd) copolymers – 3410P
chromium dioxide, water solubility – 6117
electron beam-curables, polyurethanes (unsatd) – 910P
ferrites – 785P
iron oxide, manufacture – 784P
iron oxide (treated), thermal stability – 6382P
iron particles, from oxide hydroxides – 1465P
latices, particles (fine, cross-linked) – 961P
manufacture
—grinding equipment – 1029P
—phosphates etc – 1714P
mechanical properties/durability, binders role – 4472
moisture resistance – 8306P
polyester-urethanes (sulphonated) – 5842P
polyurethanes, blends, carboxylated/sulphonated – 8309P
polyurethanes (unsatd, carboxylated) – 8769P
polyurethanes (unsatd) – 6513P
polyurethanes/nitrocellulose, urethanes chain extension – 8300P
radiation-curables
—acrylic/urethanes (sulphonated) – 2154P
—acrylic/urethanes blends etc – 1302P
—acrylic/urethanes, phosphates groups – 624P, 1317P
—vinyl chloride copolymers (unsatd) – 3841P
undercoats, water-bornes/solvent resistance – 1712P
vinyl chloride copolymers/polyurethanes/isocyanates – 8310P

Recording Materials, Magnetic *(continued)*
vinylidene chloride copolymers/polyurethanes etc – 8306P
water-bornes, epoxies/modified polymers – 235P
Recording Materials, Pressure-sensitive
colour formers, fluorans – 4239P
complexes (charge transfer) – 2604P
microcapsules manufacture – 1516P
Recording, Electrostatic
charging (triboelectric), phosphines – 4243P
coatings – 1172P
Recording, Heat Transfer
inks, binders/colourants/phosphatides – 2596P
sublimation, dyes – 9322P
Recrystallisation
See crystallisation
Red Lead
anticorrosives – 4323
Red Spot Paint & Varnish Co
acquisition, by August Inc – 7881
Redox Systems
initiators, types/chemistry, review – 2320
persulphates (mono-)/thioglycollic acid – 8129
styrene/sulphur dioxide – 9063
Reflectance
See also infrared spectroscopy, 'infrared spectroscopy, Fourier transform', spectrometers, spectrometry & spectroscopy
calculation, wavelength dependence, from tristimulus – 8571
determination, curve parameters/visual characteristics/sanding – 2811
hiding power determination – 8905
Kubelka-Munk theory, colour matching – 3614
metallic finishes, angle dependence/pigments/models – 2817
mica (coated) – 3112
nacreous pigments, theory – 8568
reflectometers, colorimeters/densitometers & – 6033
Reflection
coatings against
—abrasion resistance – 6826P
—layers/graded sizes/alkoxides – 9582P
—photochromic layers & – 9632P
—radiation-curables (matt) – 9852P
Reflective Coatings
glass particles, fluoropolymers & – 1160P
mirrors, protection, radiation-curables – 632P
Reflectors
adhesives (thermosetting) – 5807
Refractive Index
asbestos fibres – 8681
ellipsometry, computer programmes – 1267
increment (specific), polymers, He/Ne gas laser red light – 9740
interactions estimation, dielectric properties & – 1261
photocurables, fluoropolymers/acrylates (fluorinated) – 4659P
prediction, equations, microscope compensator materials – 8666
solvents, He/Ne gas laser red light – 9740
ultraviolet-curables, polysulphides/acrylates – 9902P
Refrigerators
coatings
—against ice – 3601P
—epoxies/polymers/foils fragments – 8555P
foams, water-borne coatings for – 1847P
Refuse
See wastes
Registered Designs Rules 1989
provisions – 9978
Regulations
antifoulants – 7568
antifouling paints, organo-tins – 717
butadiene – 2943
colourants, review, worldwide – 3770
diphenyls (chlorinated) – 9766
finishing &, impact – 318
health & safety, coatings relevant – 3774
health & safety/hazardous materials, lists – 571
international
—aerosols cans, transport – 5588
—hazardous materials, transport – 5578, 6206
—hazardous materials, transport (air) – 5586
paint industry, effects on research – 3084, 6357
Spanish, health & safety – 3925
Regulations, Australian
chemicals – 5454
labelling, paints/pesticides – 8847
Regulations, Canadian
hazards communication, companies problems with – 7195
wood preservatives – 415
Regulations, Dutch
safety/environment/hazardous materials – 2224
Regulations, European
antifoulings – 4740
barium chloride – 8853
chemicals, comments/harmonisation – 9990
classification etc – 3096
food contact – 3096
hazardous materials, transport/packaging – 1399
health & safety, services/specialists – 2219
health/safety/environment – 5582
labour, companies (small/medium) & – 663
leases, property (commercial), variations – 9986
packaging – 5580
solvents (chlorinated) – 4625
toys, safety – 719
Regulations, European (West)
solvents (chlorinated) – 7046
Regulations, French
aniline – 4588
carcinogens, actual/potential/suspected – 716
diacetone alcohol – 4590
dioxane – 4589
hazardous materials
— 715
—decrees – 7917
hazardous materials/air flow – 7916
hazards (mechanical)/physical nuisances – 7921
heptane – 2083
hexachlorocyclohexane – 2085
isophorone – 4591
lead
—monitoring – 718
—surveillance (medical)/physicians (occupational) – 4757
Regulations, German
degreasing plants – 4756
hazardous materials – 3933
lead-containing pigments, labelling – 6325
painting, plants – 4769
Regulations, German (West)
aerosols cans, transport – 5588

Regulations, German (West) *(continued)*
hazardous materials, storage/packaging/transport – 9983
health & safety – 7210
spraying relevant – 7036
TA Sonderabfall – 9969
toxic materials disposal – 9969
Regulations, Irish
health & safety – 7197
Regulations, Italian
– 2054
cans, for food – 3923
emissions
— 582
—authorisation – 6324
—painting – 7200
pollution/wastes/safety/labelling, EEC & – 6335
product liability – 9970
wastes, disposal, paints – 7194
Regulations, Japanese
chemicals – 5454
Regulations, Norwegian
solvents, exposure levels (occupational) – 8848
spraying, plants/equipment, automobiles – 4738
Regulations, Spanish
accidents (major), EEC directives implementation – 3932
wastes (hazardous) – 7047
wastes (industrial) – 9989
Regulations, Swedish
printing, emissions & – 7204
Regulations, Swiss
air pollution, chemical industry & – 7918
Regulations, UK
buildings, fire/safety – 4383, 4386, 6782
chemicals (new)
—notification, guides – 4763
—notification/R & D – 6323
consumer protection, standards (UK) – 4770
designs (registered) – 9978
EEC financing – 1393
effluents, prescribed processes/substances – 9976
electricity, provisions/guidance – 7915
emissions
— 4760
—pollution control, plans/EEC directives – 3922
—solvents/printing – 7053
European Economic Interest Grouping, fees – 8861
fire precautions
—codes of practice – 4765
—guide – 9981
fire safety – 7196
fires/warehouses – 3080
formals – 7018
fumigation, codes of practice – 2226
furniture, fire/tests – 711
gases (compressed), transport, codes of practice – 3929
hazardous materials
—assessments for, guides – 2227
—awareness etc of, questionnaires – 5579
—classification etc, amendments (proposed) – 1396
—classification etc, lists amendments – 1396
—classification etc, regulations – 3927
—codes of practice – 2225
—codes of practice (draft) – 1394
—control/records requirements – 8862
—employers' responsibilities – 1389
—guidelines – 5587
—implications – 2223
—inventories – 6334
—provisions – 714
—risks assessment – 7766
—risks assessment, case histories – 3083
—transport (road) – 8860
—transport (road), UK harmonisation EEC – 4761
hazards (major)
—amendments – 712
—assessment/guidelines – 8864
health & safety
— 7016, 7220
—books – 731
—offices/shops etc, guidance – 7206
—progress – 3081
—recent/proposed – 7933
—state of – 5577
health/safety/pollution/inspection – 10005
isooctane – 7017
plants registration, pollution control – 4744, 4759
pollution control, wastes disposal, control – 8960
product liability – 9972
solvents – 2245
terms etc/EEC, Committee minutes – 4767
toys
—paints, excess lead/cadmium/barium – 1268
—safety, regulations (UK) – 8858, 9979
wastes – 1392
wastes (controlled), transport, carriers registration – 8859
wastes (hazardous)
—transport (transfrontier) – 7913
—transport (transfrontier), notification etc – 713
water pollution control, discharge consents – 9975, 9977
weighing, equipment – 3928
wood preservatives – 9980
Regulations, US
– 3333
accidents, record-keeping – 6181
carcinogens – 740
chlorofluorocarbons, restrictions/profits 'taxes'/implications – 9824
diaminodiphenylmethanes, proposals – 7919
effluents
—organics/finishing operations – 581
—prohibited substances – 2972
emissions
—'Toxic Hot Spots' – 9988
—automobiles finishing, reduction – 8744
—plans – 9974
employment, plant closures/mass lay-offs – 3926
exposure limits – 7920
fluorocarbons – 9974
food contact – 3096
formaldehyde, implications – 1398
hazardous chemicals, consumers exposure/drinking water – 9985
hazardous materials
—& compliance, books – 1451
—compliance, requirements/programmes for – 9982
—monitoring, guidance notes – 4762
hazards, communication – 7208
health & safety – 7220
health hazards, communication to community – 8712

Regulations, US *(continued)*
lists, recent – 9974
methylene chloride, labelling – 3085
packaging, for food etc – 2220
paint industry relevant, update – 708
painting &, ships, problems – 8727
painting (contract) &, EPA regulations – 9984
pesticides, registration procedures – 8865
solvents (halogenated) – 6326
toxic materials, customers notification – 709, 720
volatiles (org)
—emissions – 7193
—emissions limits, proposals – 7201
—industrial finishes/California – 7794
—limits/maintenance paints – 9968
—Los Angeles, plans & – 8736
—navy compliance activities – 5134
—painting industry & – 7209
—printing inks – 4225
wastes (hazardous)
—containers management – 3789
—minimisation – 587
—printing (screen) – 5394
—printing inks returns – 4624
Reichhold Chemicals
acquisitions by, Beazer/Koppers polyesters (unsatd) – 5534
emulsion polymers, modernisation programmes – 7882
Polychrome Chemicals transfer, & plants location etc – 689
polyvinyl acetate, plants closure/relocation – 4726
Reichhold Europe
joint ventures, Cepsa/Dai-Nippon Ink & Chemicals – 5547
Reichhold Ltd
formaldehyde, plants (new) – 4727
Reinforced Concrete
See 'concrete, reinforced'
Reinforcing Elements
cathodic protection, corrosion monitoring – 1068
cementitious coatings – 7616P
cleaning, concrete repair & – 7555
coated, electrochemical measurements, modelling/crevices – 9461
coatings
—adhesion promoters/diffusion control – 4425P
—epoxies, mechanical properties/corrosion resistance – 7551
corrosion
—book chapters – 7538
—books – 7544
—concrete potential mapping & – 7527
—control, coating rebars or concrete – 2696
—control, measures – 7543
—control, methods – 4317
—control, methods (comparison) – 2693
—depassivation time/diffusion/equations – 5157
—electrochemical measurements – 6728
—environment aggressivity classification – 7543
—impedance – 6686
—measurements/actual – 9405
—mechanisms/conditions favouring/measurement – 2679
—monitoring, electrochemical noise – 3471
—monitoring, methods – 7516, 7528
—polarisation resistance – 380
—repair – 8513
—spalling – 9401
—stages/factors – 7553
corrosion (marine)
— 5916, 7539
—simulation, bending/coatings damage – 9479
corrosion (pitting), simulation, solid gels (alkaline) – 3481
corrosion resistance, calcium-containing layers & – 9475
corrosion/control – 9403
descaling/cooling/residual heat tempering – 9387P
electrochemical measurements
— 6737
—coated/uncoated/chlorides – 6718
—galvanostatic transient – 2678
—rebar potential – 9458
fusion-bonded coatings
— 2693
—epoxies – 4317, 9403
—epoxies, problems – 9459
galvanised steel
— 6683
—book chapters – 7224
polarisation resistance, theory/experiment – 1767
powder coatings
—application, plants (Italian) – 5102
—statistics/specifications/proprietary – 9245
—use/standards – 7408
protection, experience (US) – 5102
standards, BS/European etc, present/future – 7216
Relative Humidity
See also humidity & moisture
adhesives, ageing, properties after, wood extractives – 2846
coatings &, durability/data analysis/predictions – 8408
curing &
—effects, polyurethane coatings – 2440
—polyurethanes, effects, reactions/properties – 2441
determination, hygrometers – 6154
dielectric properties, glass beads/effects/induced packing changes – 6979
fungi &, requirements – 6759
hardness &, time after application – 4468
painting, primers, subsequent weathering – 1727
paintings, sizes/cracking – 7731
particle board (coated), gloss & – 5931
polyurethanes (moisture-curable), degradation & – 2878
sagging resistance presence – 5027P
standard value, generation etc in containers, etc – 1419
Release
papers, heat-resistant coatings – 2800P
Release Agents
acrylics (fluorinated), silyl groups – 9589P
epoxy compounds (fluorinated) polymers – 4248P
for moulds, decomposition by lasers – 5895P
paper coatings containing, release from drums – 9562P
polymers/org acids – 2793P
solder mask coatings – 8794P
ultraviolet-curables, siloxanes/onium – 8805P
vinyl chloride/urethanes copolymers – 3386P
vinyl polymers (fluorinated) – 8121P
Release Coatings
against posters – 8536P
book chapters – 8514
coatings (in-mould) self release – 8488

Release Coatings *(continued)*
electron beam-curable
— 5419
—comparison with conventional – 2996
—silicones (unsatd) – 5402
epoxy siloxanes – 8532P
films (polymer), silicones migration to surfaces – 9610P
for films (orientated), siloxanes – 7613P
for moulds, siloxanes, hydroxylic/Si-H – 459P
hydrocarbons (modified), by silicones – 5987
labels easy release – 8536P
polyethers (unsatd, fluorinated) polymers – 9607P
polymers/alkyl groups – 9551P
printability, siloxanes blends – 481P
radiation-curable
—acrylic/urethanes (fluorinated) – 5423
—organo-silicons, unsatd/mercapto – 608P
recycling materials containing – 5987
silicones, types/properties/uses etc – 8507
siloxanes
—curing agents/catalysts/acetic acid – 9633P
—over coupling agents – 8554P
siloxanes (unsatd) copolymers – 3410P
siloxanes (unsatd)/siloxanes (Si-H)/olefins – 9592P
thermosetting, siloxanes (Si-H)/silicones copolymers – 9619P
ultraviolet-curable
—epoxy siloxanes – 5411, 7808
—epoxy siloxanes & epoxy compounds – 9884P
—silicones, additives/depth profiles – 8764
—siloxanes/onium – 8805P
water-borne, siloxanes (unsatd/Si-H) – 7624P
X-ray fluorescence, analysers (proprietary) – 9697
Reliance Universal Inc
acquisition, by Akzo NV – 7184
Rendering
coatings – 6810
Repair Painting
air-drying coatings, manganese phosphate (acidic) – 7536
alkyd/melamines, catalysts & – 9573
automobiles
—stages/chemistry – 5224
—thermoplastics – 1164P
basecoat/clear with repairability – 5246P
book chapters – 3101
epoxies/original paints blends – 4452P
fluoropolymers/mineral spirits – 1858P
hazards assessment, automobiles repair & – 3083
paints then waxes before dry, excess removal – 7505P
qualifications, EEC countries (various) – 8852
thermoplastics – 1164P
undercoats, sanding avoidance/adhesion – 1875P
vehicles (motor)
— 6809
—coatings – 7601
—paint manufacturers (Dutch) – 9938
—polyurethanes/pot-life – 211P
Reproductive Systems
butadiene – 2950
ethylene glycol monoethyl ether – 7772
fertility, leave of absence for – 6169
formaldehyde – 2058
methyl isocyanate – 2060
methylene chloride, studies – 4601
phthalates – 573, 4809
styrene – 9793
toluene – 7040
trichloroethylene – 5376
Repsol
joint ventures, polyesters synthesis – 7867
Repsol Quimica SA
acquisitions by
—Critesa SA plants – 9929
—of part Polivar – 5556
Research
coatings, vehicles (motor) manufacturers – 8182
coatings field, areas needing work – 6536
collaboration, Japan/UK – 5575
corrosion, & control, universities – 7554
explosions, dusts – 2062
powder coatings – 7401
radiation curing, Japan – 3795
regulations effects on – 3084, 6357
wood preservatives – 3504
Research & Development
adhesives, Air Force (US) – 4215
antifoulings, Argentina/review – 4362
assessment, guides – 10002
chemicals (new), notification regulations implications – 6323
chemicals manufacturers (UK) – 2214
expenditure, Japanese companies – 7173, 7174, 7175, 7176, 7177, 7178, 7179
financial aid, UK/EEC sources – 8837
laboratories, Netherlands/dispersions/polyesters etc – 1371
market-orientated/technology-push – 6283
paint industry, computers – 4148
paint industry (Indian), testing &, organisations/activities – 1354
paint manufacturers, vehicles (motor) finishing facilities – 699
paint manufacturers (UK) – 2213
paints etc, USA – 2510
powder coatings – 3358
radiation curing, Japan – 3794
US, funding/expenditure, statistics/forecasts – 5517
Resicoat GmbH
combination, with Vereinigte Pulverlackfabriken – 4710
Resin Acids
allergies, derivatives & – 7788
salts, of noble metals, inks – 8297P, 8307P, 8308P
Resinates
antifoulings, cuprous oxide & – 1094
modified, by polyamides, & inks use – 1010P
photoresists, metals films from – 8650P
pigments treatment – 3979P
Resins
See also polymers
allergies/asthma/skin diseases – 5351
health & safety, data sheets – 4800
proprietary
—directories/characteristics – 8954
—new/newly-developed, various, details – 8045
speciality, manufacturers acquisition – 3893
statistics/demand forecasts/manufacturers, Europe – 7155
supply situation/prices, factors – 8814
synthesis
—automation, formulation etc – 5856
—companies (Dutch) in USA – 3059
—companies (Dutch) reorganisation – 7888
—companies (Indian) – 3920

Resins *(continued)*
—companies (UK), quality assurance – 7847
—companies subsidiaries reorganisation – 689
—for inks, German companies – 9939
—laboratory scale, measurement/control – 1526
—manufacturers (Belgian) – 4713
—manufacturers (Ecuador), acquisition of – 6302
—manufacturers (German, West) – 7155
—manufacturers (US) acquisition – 6305, 7904
—manufacturers (US) acquisition by Dutch – 7184
—manufacturers (US), activities/strategies – 7905
—manufacturers acquisition – 3888
—manufacturers restructuring – 3883
—manufacturers, acquisitions – 4732
—paint manufacture &, review/USSR – 1028
—plants (planned), Spain – 1368
—UK companies production expansion – 7883
—USSR plans – 1349
synthesis/marketing, joint ventures Europe – 5547
trends
—for coatings – 4886
—for coatings, volatiles reduction & – 4885

Resins, Natural
identification, art objects, TLC – 2866
inks, German companies – 9939

Resins, Synthetic
manufacturers (UK), history/acquisitions/overseas companies – 6298
plants, Argentina – 675
radiation-curables, joint ventures – 693
statistics (UK) – 5506
types – 5667

Resistance
See also electrical resistance & electrical properties

Resistivity
See electrical resistance

Resistors
electrodes, conductive coatings – 467P
variable, conductive coatings, durable sliding contacts – 6008P

Resists
See also photoresists
acetylene polymers – 6221P
acrylamide copolymers, pendent alkoxylated/oligomerised acrylates – 3844P
acrylates (modified), by lactones/melamine – 6236P
acrylics
—alpha-halo, pendent phenylhexaisopropyl – 9124P
—cumyl groups (fluorinated) – 9897P
—from acrylates (alpha-substituted) – 6230P
—from plasma polymerisation – 1325P
—ultraviolet radiation absorption – 7824P
acrylics (halogenated)
— 3824P
—phenylhexafluoroisopropyl/alpha-halo – 9893P
acrylics/titanates – 7812P
adhesion to, photocurables – 2150P
ammonium organo-silicon ions treatment after exposure – 1329P
anhydrides (unsatd) copolymers (modified), epoxies/monomers & – 3022P
anthraquinone (substituted) – 7086P, 7087P
chemical resistance, epoxy/novolacs etc – 1008P
chloroacrylates – 2163P
chloroacrylates (fluorinated) – 4095P
coatings over, phosphazenes – 9621P
curing, ultraviolet then thermal – 3850P
diazoquinonesulphonates (chemically-bound) – 9868P
dyes, oily/water-soluble, gamma-rays absorption – 8783P
electron beams
— 4645
—acetaldehyde/chloral copolymers – 7080
—acrylics (fluorinated) – 4630
—acrylics, developers/sensitivity – 3807
—acrylics/titanates – 7812P
—chloroacrylates – 2163P
—chloromethylstyrene/methylstyrene copolymers – 4633
—copolymers/heat resistance – 1306P
—cyanoacrylate polymers – 7826P
—isopropenylphenols polymers/sulphones – 3018P
—methylenemalonates polymers – 7826P
—methylstyrene/chloroacrylates copolymers – 611P
—novolacs/diazoquinones – 3017P, 3825P
—orthoesters (bicyclic, unsatd) – 8011P
—phenolics/sulphone systems – 3016P
—plasma etch resistance – 8750
—polyethylene (modified) – 619P
—polymers – 6221P
—polymers (comb), plasma resistance – 594
—resorcinol-formaldehyde resins/silyl – 3815
—silanes (polymeric) – 5476P
—two layers, siloxanes in upper – 1307P
—vinyl ethers (fluorinated) copolymers – 4666P
epoxies, silanes/nitrobenzyl/fluorophenyl – 9888P
epoxies/anthraquinone (substituted) – 7088P, 7089P
epoxies/trisphenols glycidyl ethers, ultraviolet/thermal – 5478P
epoxy/acrylates, half-ester/urethane groups, epoxies & – 3025P
etchables/silicone-modified/silicone/diazoquinone layers – 3823P
gamma-rays, phenolics/sulphone systems – 3016P
graft copolymers/polymers/epoxy esters (unsatd) – 8768P
intermediate masking agents, silanes (hydrolysed) – 4451P
ion beams – 4645
isoalloxazines/carboxylic acids/polymerisables – 2175P
maleic anhydride/vinyl ether (fluorinated) copolymers (modified) – 4666P
maleic copolymers/halogenated compounds/monomers etc – 3007P
multilayer, organo-silicon polymers top – 4634
multiple layers, novolacs lower, under surface decomposition – 9591P
novolacs
—diazonapthalenesulphonic-modified, phenols & – 3015P
—low MW removal – 8778P
—silyl groups – 7101P, 7102P
novolacs/diazo diketones/diazoquinones – 4656P
novolacs/diazoquinones – 3825P
novolacs/diazoquinonesulphonates
— 7825P
—stabilisers & – 3832P
organo-germanium compounds (polymeric) – 4665P
parameters/chemistry – 4642
permanent, proprietary, printed circuit boards – 5443

Resists *(continued)*
phenolic resins, diazoquinones & – 5483P
photoinitiators/initiators blends, & coupling agents – 3860P
polyepichlorohydrin (modified) – 3808
polymers (carboxylated), cyclisation/cross-linking – 5458P
polymers/photosensitisers, thermal stability – 3836P
polyphenylene compounds (nitro) – 640P
polystyrene (substituted)/azides – 3856P
polyurethanes (unsatd) – 6243P
polyvinyl alcohol (modified), siloxanes (pendent) – 9860P
radioactive rays, cyanoacrylates polymers – 9165P
sensitivity, polymers (deuterated) – 7819P
silanes (fluorinated), plasma treatment – 1316P
silanes (polymeric)
—diazoquinone-type units – 639P
—esters groups (fluorinated) – 5476P
—nitrobenzyloxyphenyl groups – 3855P
silanes/azides – 638P
siloxanes
— 3012P
—alkali-soluble – 616P
—diazonaphthoquinones/polymers & – 3845P
—naphthoquinone derivatives groups – 1285
—nitrobenzyloxyphenyl groups – 3855P
siloxanes (ladder)
—alk(en)yl groups/terminal acetylation – 1305P
—vinyl groups/silyl groups – 8776P
siloxanes/polymers – 4664P
silyl groups, half-esters (unsatd) with – 3842P
stripping, compsns – 345P
thin films, phosphates (acetylenes bridges) – 2985
three-layer, polystyrene (chloromethylated) top – 9861P
titanates (unsatd) – 5482P
trifluoromethylacrylates copolymers – 9853P
trifluoromethylstyrenes polymers – 886P
types/chemistry, review – 4645
ultra-thin films – 4636
ultraviolet, X-rays after mask removal – 8795P
ultraviolet radiation (far) – 640P
water-bornes, diazonium salts/polymers etc – 1311P
X-rays
— 4645
—acrylics (fluorinated) – 4630
—acrylics/titanates – 7812P
—cyanoacrylate polymers – 7826P
—germanes (polymeric) – 6208
—isopropenylphenols polymers/sulphones – 3018P
—methylenemalonates polymers – 7826P
—novolacs/diazoquinones – 3017P, 3825P
—organo-germanium compounds – 4665P
—phosphates (acetylenes bridges) – 2985
—phosphors/chlorinated polystyrene – 6215P
—polyethylene (modified) – 619P
—silanes (polymeric) – 5476P

Resoles
See also epoxy/resoles
fluorinated, synthesis from perfluoroalkenes – 3278P
impregnation varnishes – 9533P
water-bornes, alcohols as modifiers – 2421P

Resorcinol
See also phenol/resorcinol entries
adhesives
—modifiers content determination – 1402
—non-volatiles determination – 1403
—starch (amylaceous) detection – 1400
ethers, propargyl groups – 6445
products, management/backers purchase – 3909
spiro compounds, from ketones & – 2295P

Resorcinol-Formaldehyde Resins
silyl groups, synthesis/resists – 3815

Resource Conservation & Recovery Act 1976
US
—printing (screen) wastes & – 5394
—printing inks returns – 4624

Respiratory Entries
See also lungs, inhalation & air

Respiratory Protection
chemicals, pocket guides – 5606
equipment
—blasting, standards problems/misuse – 3768
—guides – 8952
equipment (proprietary) – 8705
fire-fighters – 5346
handbook sections – 7220
isocyanates – 5344
masks (proprietary) – 7009
painters, views on wearing – 575
sanding – 7009
spraying, polyurethane coatings – 562

Respiratory Systems
asbestos – 2079
butylene oxides – 4577
cadmium – 564
cancers, chloromethyl ethers – 4608, 6174
fire-fighters, respiratory protection & – 5346
formaldehyde
—alone/with wood dusts – 2078
—asthmatics & – 2963
—exposure/airways narrowing – 9763
—solvents & – 6168
formaldehyde/solvents – 9779
irritants, responsiveness increase after – 6172
isocyanates
— 2101
—effects/early detection/treatment – 6195
—protein conjugates challenges – 2055
kaolin – 7034
methacholine inhalation tests – 2077
methyl isocyanate – 2060
quartz – 1422
silica
— 1423
—hazards/dysfunction measurements – 6191
titanium dioxide – 3766
wood dusts/phenolics/formaldehyde – 1274

Restoration
antique effect – 332P
buildings, cleaning etc/moisture-curables – 6673P
marble, cyanoacrylates/siloxanes/microspheres – 5232P
shingles (wooden) – 314
silicate paints – 358
wood (weathered), pretreatment/coatings – 302

Retailers
liability, patents infringement – 5589
UK
—distributors, acquisition by paint manufacturers – 3885
—support from manufacturers – 9926

Retailing

decorative coatings
— 5531
—forecasts (UK) – 8833
distribution centres acquisition/retailers supplying – 3908
do-it-yourself, UK/forecasts/geographical – 8835
paints, France – 6279
quality assurance, BSI registered stockists – 7848
shops, health & safety, regulations (UK) – 7206
UK, do-it-yourself, stores acquisition – 2206
Retroreflection
beads, catalysts-treated, polymerisation presence – 6387P
coatings, microspheres (hemispherically-coated) – 8533P
sheets
—coatings, soiling etc resistance – 3587P
—transparent coatings, toughness – 6831P
Reverse Osmosis
electrocoating (cathodic), iron removal – 2649P
Rhamsan Gum
paint strippers (water-borne) – 4297P
Rhenium
complexes, photosensitisers ('bound') – 3796
Rheology
See also flow and viscosity-related entries
acrylics (carboxylated) – 1240
alkyds, solvent blends, solutions/paints/additives/storage – 2839
carboxymethylcellulose, block copolymer-type, xanthan gum mimics – 4474
cementitious coatings – 936
colloids, aggregate networks, universal behaviour – 3619
control – 4873
dispersions, silica, non-aq/traces aq – 759
dispersions (aq), polyesters/polyurethanes – 4228P
during curing, high-solids coatings, experiments/models – 2831
emulsion paints
— 494
—latices (lobed) – 2548
emulsion paints (gloss), acrylics (carboxylated) – 2841
emulsions, pH/temp – 7637
epoxies, during curing, equations/modelling – 5266
epoxy/polyamides, stabilisers – 806P
ethyl silicates – 3218
ethylhydroxyethylcellulose – 3996
fillers/plasticisers, predictions from – 1188
flow through pores, shear thickening/adsorbates – 4457
flow time determination, calibration – 2826
fluids, in cylinders, bottom driven, cells formation – 3633
fluoropolymers, melts – 3620
high-solids coatings
— 9212P
—flow not penetration – 2533P
isoindoline pigments – 769
microgels, solutions (concentrated), experiments/models – 1896
mills (ball) materials transport – 8327
nitrile rubber, & additives/solids content – 6868
oscillatory techniques, book chapters – 4466
paints, methods/quality control – 2010
paper coatings, coatings structure & – 3626
particles, in fluids, shape/drag coefficients – 6879
pigment dispersions
— 3962
—thickeners/latices effects – 8581
pigments (treated) – 1467P
polyether-sulphones (aromatic) – 7362P
polyethers/cellulose ethers – 2832
polyethylene glycols, blends/MW – 2832
polysaccharides, solutions/pastes/equations – 1898
powder coatings (thermosetting), film formation & – 9651
pressure-sensitive adhesives – 499
printing inks
—flow cups – 1187
—pigment compsns & fluidity – 8996P
printing inks (screen) – 6862
propylene copolymers (carboxylated) – 9647
slurries, kaolin, viscosity maxima/immobilisation concentration & – 6877
suspensions, stability/application/microstructure reforming – 3631
suspensions (aq), clays, silicates/phosphates/calcium & – 9648
techniques/equipment/shear heating etc, books – 4791
theory, equations, function of MWD parameters – 1893
thickeners (associative), solutions – 6871
thickeners (associative)/surfactants – 799
water-bornes, dynamic uniaxial extension viscosity – 6881
writing inks, polyvinyl butyral/solvent blends – 5068P
xanthan gum – 3739
Rheometers
See also viscometers
capillary, high-pressure, equipment/uses – 4467
cone/plate, corrections/transient response – 8606
controlled stress, proprietary – 494
converging flow, pressure data interpretation – 9640
elongational, techniques/equipment, review – 4463
parallel plate, gap settings/modulus magnification – 8606
proprietary
— 4791
—exhibitions (German) – 6166
—features – 4459, 4461
rotary
—geometries/mathematics/errors etc, review – 4469
—narrow gaps/small samples – 4460
Rhine
pollution control, organisations/measures – 9809
Rhodia
bisphenol A, plants (new)/plans, Brazil – 7860
Rhodium
complexes, phosphine ligands, flame retardants – 5189, 5967
mercaptides, inks – 8297P
Rhone-Poulenc
US subsidiaries, joint ventures buy-out – 7889
Rhus Lacquer
See also urushi varnishes
Ribbing
roller coating, theory/experiment – 5090
Rinsing
See also cleaning & washing
tanks, water replenishment, control/monitors – 3430
water, treatment/recycling – 9802

Rio Rodano
joint ventures, polyesters synthesis – 7867
Ripolin
factories, acquisition by Crown Berger – 3908
Road Marking Compositions
analysis, binders/beads/pigments – 8933
black deposits on, identification – 2890
bond strength, determination – 8932
epoxies, curing agents – 3500P
fluoropolymers, vinyl ethers/hydrolysable organo-silicons comers – 1160P
hot-melt, glass beads/carbon etc fibres – 1871P
materials/application equipment/statistics etc – 449
oxides (mixed), Fe/Zn etc – 5632P
petroleum resins – 1552P, 1554P
polymerisation for, presence catalysts-treated fillers – 6387P
sedimentation – 8890
statistics (US) – 7607
tapes, bonding to roads – 9606P
types/application/formulation/costs/durability/properties – 7607
urea-aldehyde condensates – 170P
water-borne
—acrylics – 4176P
—snow-covered roads – 9612P
wear resistance – 8885
Road Traffic (Carriage of Dangerous Substances in Packages etc) Regulations 1986
codes of practice, revisions (proposed) – 5584
Road Traffic (Carriage of Dangerous Substances in Packages etc) (Amendment) Regulations 1989
provisions – 8860
Roads
coatings, epoxies (modified) – 1882P
concrete (reinforced), structures, sealers – 3479
dressing, coal tar, polycyclics exposure – 3772
water-bornes, acrylics/urethanes – 233P
Robots
hazards/safety/selection – 7760
laboratories – 512
market (European) – 1358
painting
— 7502
—characteristics/advantages/programming – 9353
proprietary, spraying – 3443
spray guns (proprietary) – 4261
spraying
—electronic equipment – 5122
—powder coatings – 5880
Rockets
See aerospace and space entries
Rohm & Haas Co
joint ventures, Orkem & – 9940
Rohm GmbH
methyl methacrylate, expansion plans – 3881
Roller Coating
film thickness, control/gap metering – 5082
flow/ribbing, modelling/experiment – 5090
ultraviolet-curables
— 5118
—for films (polymer) – 5097
webs, substrates bearing wet inks – 9378P
Rollers
antistatic coatings, fluoropolymers/fibres (coated) – 3581P
decorative effects, non-dried coatings treatment with – 5858
for painting
—attachments on handles – 9389P
—cleaning equipment – 9391P
—cleaning, insertion into jackets – 2647P
—manufacturers (UK) – 6290
—market (UK), brushes etc & – 9921
—power equipment – 8333
—power equipment guidelines – 7477
—selection/techniques – 7481
—splatter shields – 8362P
—trays – 7504P
—trays, supports for – 7507P
—valves controlling supply – 9372P
—water-bornes rheology – 6881
Roofs
asbestos, metallic finishes – 6816P
asbestos cement
—degradation, bacteria/condensation/freezing – 1811
—weathered, cleaning/painting/biocides – 8338
block copolymers/thermosetting elastomers – 2778P
coatings
—bitumens/block copolymers – 1644P
—water/photo-oxidation resistance – 7610P
flat
—bitumens/aggregates, tests/modification – 8171
—polyurethane coatings (moisture-curable) – 7606
galvanised steel
—coil coatings – 5214
—plastisols, weather resistance – 5900
panels, powder coatings – 4199
polyurethane coatings (moisture-curable) – 8134
stabilisation, polyurethane foam – 8314
steel (coated), stoving finishes, aluminosilicates – 1152P
Rosin
adhesives, acrylics &, analysis, characterisation methods – 3660
alkyds, from castor oil & – 120
allergies – 7788
amides, synthesis – 2316P
antifoulings
—copper compounds, chemical changes – 7582
—copper/cuprous oxide/acrylics & – 5958P
—cuprous oxide/thixotropic agents etc – 4361
—plasticisers effects – 4358
—research & development – 4362
antifoulings (self-polishing) – 3537P, 3538P
antifoulings (water-line), organo-tins etc & – 4356
coatings, diene copolymers synthesis wastes & – 7796
derivatives
—emulsion polymerisation presence – 6439
—inks, resin acid salts etc & – 8307P
—sensitisation – 8714
—tackifiers – 5819P
Diels-Alder adducts, emulsifiers – 6475P
esterification
—presence hypophosphites/phosphites – 74P
—presence phosphinic/phenol sulphide – 76P
—with polyols, excess rosin – 75P
fatty acids from, HPLC – 6907
glycidyl ethers, acrylic/urethanes from – 4647P
identification, art objects, TLC – 2866
maleinised, reaction with pentaerythritol – 1521
modified, tackifiers, adhesives (water-borne) – 4220P
printing inks, tall oil v gum – 7427
products
—urea resins (methylated) – 7341
—with vinyl butyl ethers – 147P

Rosin *(continued)*
sensitisation – 8714
sizes, sizing agents/aluminium compounds & – 1116P
statistics/uses/composition/colourless etc, review – 4004
TLC – 6090
Rosin Acid
salts, pigments treatment – 3979P
Rosin Esters
See also ester gums
synthesis
—capacity expansion, USA – 9934
—catalysts – 4005P
—transesterification/hydrogenation – 1522P
Rotogravure Inks
See 'printing inks, rotogravure'
Roughness
adsorption & – 6123
automobiles, substrates, gloss/distinctness of image etc & – 3607
blast cleaning, coatings/corrosion resistance – 7491
determination, equipment (proprietary) – 6158
heat-curables, for steel – 8609P
paper, printability/smoothness parameters/reflectance – 3732
particle board (coated), ageing & – 5931
printing plates – 6989
steel
— 5898
—cathodic disbonding & – 9429
steel (structural) – 307
substrates/metallic finishes, appearance – 5312
surfaces, polymers adsorption & – 538
terms relating to/typical values – 7721
ultraviolet-curables over – 626P
RTZ Chemicals
acquisitions/policy/joint ventures – 7901
RTZ Group
acquisitions by, British Petroleum mineral assets – 3915
Rub Resistance
determination
—printed materials, equipment – 2040
—printing inks – 7006
printing inks
—methylstyrene copolymers – 1009P
—newsprint – 1706P, 5059
Rubber
See also butyl, chlorinated, nitrile, silicone & styrene/butadiene rubber, ebonite, 'rubber, natural' & 'rubber, synthetic'
abrasion-resistant coatings for – 2779P
accelerators, adsorption on silica – 3329
adhesives, acrylic/urethanes etc & – 3391P
adhesives for, & fibres – 3381P
automobiles &, window runners coatings – 5236P
blends, coatings/inks for rubber – 9569P
bonding, to metals, primers for – 3599P
coatings, acrylics/polyesters products – 6832P
deposits, on road marking, identification – 2890
epoxy/acrylates & – 5425
GC/MS, pyrolysis GC, review – 1981
NMR, imaging – 4510
primers, for plastics – 3392P
unvulcanised, antioxidants types – 8249
vulcanisation, review – 4141
vulcanised, coatings/inks for – 9569P
water-bornes for, polymers (anionic)/salts – 8494P
Rubber, Natural
adhesives, book chapters – 8245
blends, with polymers, curing – 1530
epoxidised
—compatibility with polymers – 4552
—structure/properties – 3205
exclusion chromatography – 1920
Rubber, Synthetic
coatings for, vegetable oils (condensed)/indulines etc – 1841P
powder coatings, epoxies & – 3363P
statistics (UK) – 5506
vulcanisation, review – 4141
Rubbing Down
See also sanding
Rust
coatings over
—alternatives – 7552
—mastics – 3462
coatings tolerant to, systems/mechanisms/testing – 8379
conversion
—coatings, galloylellagic acid quercetin derivatives – 7100P
—lignin, coatings curing – 7492
—primers, substrates reaction as well – 300
—tannins – 5143
—tannins, structure/composition before/after – 5144
conversion/stabilisation, instead of blasting – 9409
degree of, standards, visual assessment – 7924
hydrogen ion concentration under – 8640
MS – 4486
products, with phosphoric acid, & reduction potential – 6689
removal, plastics/wood products – 9825P
staining, of coatings, agents against – 8395
structure/composition, before/after tannins – 5144
tannins & – 9681
Rusting
See also flash rusting
degree of, ASTM-SSPC/European scales – 307
Ruthenium
complexes, photosensitisers ('bound') – 3796
titanium dioxide (reduced) &, NMR – 8626

S

S-R Premier
acquisition, by Akzo – 4732
Saccharic Acids
polyamides (hydroxylated), homologues & – 9163P
Saccharides
coatings, acrylamide polymers & – 6015P
glucosaccharoascorbic derivatives, conductive coatings – 8552P
triterpene groups, molluscicides – 2734
unsaturated, copolymers (cross-linked), swellable – 2315P
Sachtleben Chemie GmbH
titanium dioxide, plants expansion/acid recycling – 7895
Safety
See also hazards, health & 'health and safety'
automation/robots & – 7760

Safety *(continued)*
blasting, dusts/noise/equipment – 7038
Consumer Protection Act/BS standards – 4770
containers (bulk, intermediate, flexible) – 3790
degreasing plants – 4756
docks, regulations (UK)/codes of practice – 1395
dusts, explosions prevention/venting – 5349
electrical insulation – 1103P
emulsion polymerisation, automation (semi), safe/optimum – 8093
epoxies – 550
equipment
—directories (US) – 8335
—proprietary – 8705
fire, regulations (UK), & regulations limitations – 7196
formals – 7018
human errors, causes/types/prevention – 7757
information, preparation/communication – 4764
information with products – 2240
isooctane – 7017
painting
— 5876
—powder coatings – 7776
plants, surveys – 9778
plants (chemical) – 8864
powder coatings, precautions – 7770
pretreatment, power tools – 9368
radiation-curables, measures – 5375
reactors, phthalic anhydride synthesis – 9774
regulations (Dutch) – 2224
solvents
— 4788
—various – 7221
spraying, polyurethanes – 562
toys
—regulations (European)/standards – 719
—regulations (UK)/labelling – 8858, 9979
—standards – 7926
ultraviolet curing – 8353
vessels (storage), petroleum gas (liquefied) – 4385, 6781
Safety, Health & Welfare at Work Bill 1988
Eire, provisions – 7197
Saffron
aluminium colouration by – 5845
Safra Ltd
solvents manufacture, plants (planned) – 3057
Sagging
coatings, nitrile rubber – 6868
control
—additives – 4997
—ethylene copolymers (oxidised) – 3266P
resistance
—adhesives (two-component) – 2576P
—epoxy/polyamides – 9043P
—ethylene copolymers – 5655P
—film formers/graft copolymers – 2522P
—graft copolymers (hydroxylated) – 9068P
—NADs – 9210P
—water-bornes, acrylics – 5027P
Sakata Inx Corp
financial performance/activities – 7178
Salicylates
See also hydroxybenzoates
Salicylic Acid
See also hydroxybenzoic acids
allyl ethers, curing accelerators for epoxies – 1595P
antifoulants, polymers/metal salts & – 426P
curing presence, epoxies – 7317
impregnation varnishes – 9533P
polymers, suspensions presence sulphonates – 1123P
Salt
transport/content, epoxy/polyamides films – 6972
Salt Spray Tests
aerosols volume/concentration, standardisation – 3468
corrosion (marine) & – 3476
electrochemical measurements &, correlation – 9434
equipment/precautions/results presentation – 6726
modified
—cycles/ultraviolet – 1780
—tests – 1416
zinc coatings, corrosion (marine) & – 8380
Salts
blown, corrosion, distance inland – 2661
defects involving, facades, causes etc – 9473
molten, paint stripping, chemistry/technology/costs – 6677
soluble
—determination in plasters – 534
—on steel, detection – 7923
—on substrates, detection/defects/measures – 2639
water-soluble, on substrates/primers, coatings over – 353
Sampling
acrylates, in air – 9674
air
—for MS – 2876
—hazards (occupational) assessment – 7758
air pollutants, review – 7660
aldehydes, derivatisation in – 1963
aluminium pigments (flake) – 8881
amines
— 9652
—& analysis – 1946
carbon (activated)
—desorption after, sealed vials – 5276
—FTIR (in situ) analysis – 4521
combustion emissions – 6075
diffusive samplers
—carbon (activated), standards – 1431
—carbon monoxide, colorimetric, evaluation – 7668
—concentrations from uptake – 6947
—length-of-stain – 1433
—performance/dimensionless parameters – 6885
—sorbents (liquid) – 1432
—toluene diisocyanate – 4622, 4623
—types/proprietary – 9816
diisocyanates – 9686
electrochemical cells for – 2870
ethyl acrylate – 9718
fungi, in air, equipment/media comparison – 7581
gases/vapours
—detection/determination, detector tubes – 1428
—methods – 1224
hazardous materials, in air, handbook sections – 7220
hexachlorocyclohexane – 2085
isophthalic acid – 6066
particulates
—effectiveness/statistical modelling – 7789
—in stacks – 1430

Sampling *(continued)*
passive samplers
—formaldehyde – 4516
—nitrogen dioxide – 4516
personal
—formaldehyde, sodium bisulphite/silica gel tubes – 1205
—review – 7673
polyamines, thioureas formation – 7674
powders/liquids, on-line, for infrared – 7650
vapours, absorbents recycling/voltammetry – 3665
vinyl acetate, samplers evaluation/determination & – 6890
volatiles (org)
—carbon (activated) – 1426
—carbon (activated), GC – 1427
—carbon tubes (hollow), GC – 6900
Samsung Group
joint ventures, Ciba-Geigy & – 7864
Sand
bituminous coatings, terracotta simulation – 6817P
weathering (accelerated), windy coastal simulation – 5904
Sand Blasting
See blast/blasting entries
Sanding
abrasives, types/carriers/equipment/proprietary – 6630
lead-containing paints, dusts/houses – 2976
reflectance curve parameters & – 2811
respiratory protection – 7009
wastes, disposal – 6630
Sandstone
simulation – 4258
Saponification
resistance, binders for water-bornes – 218, 5779
vinyl chloride/vinyl acetate copolymers, kinetics/modelling – 8118
Saponins
molluscicides – 2734
Sarcosinates
antistatic additives – 3588P
Sartomer
acquisition, by Atochem/Orkem – 3888
Satellites
See aerospace and space entries
Saturation
colour matching – 5256
sample area &, counteracting, balancing samples – 3611
Sawdust
coatings, insulation (thermal/acoustic) etc – 2787P
Scaffolding
boards, failure causes/precautions – 3767
Scale
formation, welding, inhibitors – 6747P
removal
—acidic solns – 8374P
—from pipes, then coatings application – 6669P
—from stainless steel, acidic solutions – 6667P
Scaling
See also flaking
Scaffolding
See also staging
Scanning Electron Microscopy
See 'electron microscopy, scanning'
Schiff Bases
cyano groups, & polymers – 3301P
precursors, mixtures, corrosion inhibitors – 5932P
Science
collaboration, Japan/UK – 5575
Scleroderma
artists, metals (heavy) – 1276
Sclerosis
multiple
—chemicals exposure – 7762
—solvents, case-referent studies – 4580
SCM Chemicals
titanium dioxide, plants, Australia – 4703
Scott Paint Corp
products, & resins therefor – 8842
Scratch Resistance
anticorrosives, fluoropolymers particles/silica etc – 1088P
anticorrosives (water-borne) – 960P
coatings
—acrylates (polyfunctional)/acrylates (fluorinated) – 1877P
—acrylics – 1137
—binders/film forming spherical particles – 5231P
—fluoropolymers particles – 9594P
coatings/wear layers – 1138P
determination
— 8601
—standards – 1415
printing inks, for plastics – 1011P
radiation-curables
— 621P
—for plastics – 7093P
—polymerisables/organo-silicons (unsatd) – 3023P
stoving finishes, aluminosilicates – 1152P
transparent coatings – 1165P
Scratch-resistant Coatings
melamine resins/hydroxylics – 9614P
polymers (hydroxylic)/acrylics/melamine resins – 9601P
polymers (hydroxylic)/polyesters/melamine resins – 9600P
siloxanes, cross-linking, siloxanes formers/co-reactives – 8522P
types/substrates/evaluation etc – 7592
Screen Printing
See 'printing, screen'
Scrub Resistance
See also abrasion resistance
emulsion paints, clays (calcined) – 2257
Scrubbers
anticorrosives, abrasion resistance – 1796P
flue gases
—corrosion analysis/remedies, expert systems – 1772
—monitoring/alternatives/maintenance – 7549
—outlet ducts, corrosion – 5924
Scrubbing
emissions
—of solvents, scrubbing with polyethers – 4621
—spraying – 4287P
Scumming
control, printing inks (lithographic) – 6603P
Sea-anemones
adhesion, force/secretions – 420
Sealants
acrylics (fluorinated) – 3279P
adhesives &, USA – 6284
aerospace, standards – 7925

Sealants *(continued)*
automobiles, use/forecasts (US), adhesives & – 7855
automobiles windows, not affecting paints – 5851P
blocking resistance, agents – 1517P
carbonates/lactones copolymers – 857P
compatibility
—with water-bornes – 4247
—with water-bornes/solvent-bornes – 4245
directories (UK)/yearbooks – 2238
electronic equipment enclosures – 8394
epoxies
— 4935P
—fillers (modified) – 3264P
—niobium/niobium compounds – 8315P
epoxies/mercaptans – 1584P
epoxies/mercaptocarboxylics – 1583P
epoxies/polydienes/curing agents – 9625P
epoxies/polydienes/curing agents/adhesion promoters – 9274P
facades etc cracks treatment – 282
fast-curing, urethane prepolymers/catalysts – 5073P
fatty acids, curing by hydroxides – 6619P
fillers, behaviour prediction – 1188
for concrete, joints, & sealing strips/coatings – 4246
manufacturers (US)
—acquisition – 3909
—acquisition by UK – 8846
manufacturers etc (US), products/plans – 6271
mechanical properties, temperature (low) – 8602
mixing, viscoelasticity testing – 1189
moisture-curable
—acrylics/polyethers, both organo-silicons – 6540P
—for concrete, siloxanes/organo-silicons – 6618P
—maleic copolymers/blocked polyamines – 3343P
—polyesters/silyl groups – 2501P
—polymers/silyl groups/condensed silanes – 9206P
—silyl groups (halogenated), pendent – 1022P
—silylthio/isocyanate – 5852P
—urethane prepolymers – 461P
—urethane prepolymers/morpholine compounds – 2611P
plasticisers, phthalates, properties/levels/formulation – 1020
plasticisers/magnesium oxide/particulate polyolefins – 284P
polyurethanes, formulation – 266
room temp-curable, developments/review – 8257
semiconductors &
—epoxies/polymers (hydroxylic)/chelates – 2612P
—epoxy/novolacs – 6617P
silicones
—volatiles analysis – 2868
—volatiles/hazards/corrosion/interactions – 1021
siloxanes, bismaleimides of – 6527P
siloxanes/catalysts – 6530P
siloxanes/polyvinyl chloride/lignin – 6615
solventless, polyurethane-ureas (unsatd) – 3303P
space/harsh environments
— 4212
—conferences – 4796
statistics (UK) – 4692
types, by binders, properties/uses of – 8312
ultraviolet-curable
—meters (remote-readable) – 7809
—siloxanes – 2169P

Sealers
See also primer sealers
application, chromating simultaneous – 7495
butyl rubber
—phenolics (terpene-modified) etc & – 3411P
—shale/polyethylene waxes etc & – 288P
electronic components
— 8531P
—epoxy/novolacs – 433P, 434P, 3267P
electronic equipment, epoxy/phenolics etc – 5239P
epoxies – 2433P
floors, alkyd/urea resins, formaldehyde control – 6523P
for concrete – 7546
for magnesium, epoxies – 8405
for mortars
—against alkali loss – 6620P
—silicones/coupling agents – 6621P
for porous materials, monomers & cyclodextrins/initiators – 6616P
for wood/cellulose, exudation minimisation – 1282P
over conversion coatings, vanadium compounds etc – 8356P
penetrating, concrete (reinforced), silanes, acrylics over – 3479
polyurethanes, wood meal – 7442P
radiation-curable
—electronic components – 3837P
—flame retardance, electronic components – 3838P
—siloxanes (unsatd) – 2170P
—ultraviolet then curing – 3839P
temperature &, minus fifty/plus seventy deg C – 3411P
temporary, for hermeticity testing – 9326P
viscosity, tests – 9999
water-borne, acrylics/diluents (reactive) – 8547P
Security
luminescent materials uses – 4815
Security Documents
coatings, polymers/silica – 3587P
printing inks, infrared (near)/phthalocyanines – 3117P
watermarks – 9306P
Sedimentation
book chapters – 1923
control, ethylene copolymers (oxidised) – 3266P
density gradient, latices, polystyrene – 1260
dynamics – 2039
latices, size/voids volumes – 4539
non-steady, theory, & computers simulation – 3764
pigments
—sediment volume/consistency limits/spatial filling values – 2907
—thickeners (associative) – 799
resistance, ethylene copolymers – 5655P
road marking compsns – 8890
sediment volume, pigments/paper coatings – 9739
silica, consolidation – 759
suspensions, particles classification – 8660
Self-adhesives
drag reduction, silicones – 9602P
radiation, pressure-sensitives & – 9833
Self-emulsification
epoxies
—polymerisation presence – 975P

Self-emulsification *(continued)*
—water-bornes – 133P
polycarbodiimides – 1633P
polyisocyanates, dispersions (aq) – 9149P
powders, polymers/salts – 2429P
waxes (modified) – 1553P
Self-stratifying Coatings
See multilayered coatings
Selleys Chemicals
Australian/New Zealand, acquisition by ICI – 2204
Semi-gloss Paints
See also emulsion paints
Semiconductors
adhesives (conductive) for, bonding to substrates – 2578P
adhesives (heat-resistant), polyimides/powders – 9264P
coatings
—polyamide-imides, siloxanes groups – 2498P
—polyether-amides – 2781P
—protective, photodegradation – 5244P
coatings/sealants, epoxies/polymers (hydroxylic)/chelates – 2612P
copper(I)/diaminoanthraquinone oligomers – 7280
manufacture
—emissions, monitoring, FTIR – 5301, 5302
—phenolics/siloxanes – 7821P
polythiazyls, spacer units/doping – 183
printing inks (screen) for – 9294P
sealants, epoxy/novolacs – 6617P
sealers, epoxies – 2433P
transparent coatings, polyimides – 4444P
Sensitisation
epichlorohydrin – 4606
epoxies – 4606
isocyanates, protein conjugates challenges – 2055
phthalic anhydride – 9759
risks assessment – 9790
rosin, & derivatives – 8714
skin, ranking/animal studies results adjusting – 2072
triethylenetetramine (commercial) amines – 2096
Sepiolite
treatment, bleaching, ion exchange properties – 6391P
Sequence Distributions
condensation polymerisation – 3199
equations, copolymerisation models – 2374
models/Monte Carlo simulation – 1528
Sericite
paper coatings, calcium carbonate & – 444P
Sericol Group
acquisitions by, US – 5569
Service Marks
See trade marks
Settling
particles, in non-Newtonian, velocities/wall effects – 3741
Sewage
See also sludges & tanks (sewage)
concrete &, degradation/coatings – 389
treatment, sedimentation tanks, coatings/biocidal ions release – 9530P
Shale
fillers, butyl rubber & – 288P
Shale Oils
distillation residues, coatings – 7610P
Sharpe & Fisher
stores acquisition by Texas – 2206
Shear
surfaces, thin films (molecular) between – 8586
suspensions – 3617, 3628
Shell Group
investment, elastomers synthesis – 7168
Shellac
coatings
—active agents & – 421P
—strippers for – 9396P
—violins – 4454P
modified, proprietary – 4882
properties/proprietary products – 4882
Sherwin-Williams Co
activities/financial performance/overseas – 5564
joint ventures
—Bapco, divestment – 3060
—ICI, divestments – 692
Shin-Daikyowa Petrochemical
maleic anhydride – 2198
Shinto Paint Chemical Co
acquisitions by, of Vapocure Taiwan – 3916
Shinto Paint Co
financial performance/activities – 7179
joint ventures, marine coatings, Sigma Coatings & – 3912
Ships
See also aircraft carriers & boats
anticorrosives
— 366
—history – 9418
blast cleaning, wastes (hazardous) – 7056
cabins, mastics against vibration – 9328P
coatings
—against ice – 3601P
—inspection while operating/dock side – 8698
corrosion, during operating life, repair costs – 371
drag-reducing coatings – 4445P
hazardous materials, stores, accidents – 547
naval
—anti-submarine, materials selection/coatings etc – 1770
—fire-resistant coatings, review – 1831
—fires/flame-retardant coatings – 8480
—painting/specifications – 8343
—USA, compliance systems activities – 5134
painting, environment/problems/control impact – 8727
propellers, coatings/cathodic protection – 5944
sonar detectability, reduction – 4445P
spraying (airless) – 7494
wooden, restoration, wood preservatives – 1092
Ships' Hulls
anticorrosives, cathodic protection & – 6685
painting, statistical process control – 4544
pretreatment, dry docks, equipment – 1733
zinc dust paints, overcoating not removal – 5907
Ships' Tanks
ballast, coatings, tar/urethanes – 1850
coatings, selection/factors/data banks/computers – 6690
corrosion, control – 8385
painting, shipbuilding, inspectors' role & – 9352
Shoes
adhesives, polychloroprene/adhesion promoters – 5813
rubber (synthetic), coatings for – 1841P
Shop Primers
zinc dust paints, overcoating not removal – 5907

Shot Blasting
See also blast/blasting entries
Shrinkage
See also expansion
avoidance
—polymers/main chain spiro – 6478P
—polyurethanes from spiro – 5759P
—spiro compounds – 6458P
compositions without, orthoesters (bicyclic) – 8011P
low
—adhesives (ultraviolet-curable), fillers – 2994
—epoxies/curing agents – 131P
—polymers (carboxylated)/orthoesters groups – 4938P
—polymers (self-crosslinkable), zero & – 4913
lower
—adhesives, epoxy/polyesters – 8284P
—orthoesters – 1173P
patterns, coatings – 9497P
polymerisation without – 2318
polymers without, spiro main chain – 6478P
reduced, adhesives, azomethines/glycidyl – 2582P
reduction
—adhesives – 8276P
—epoxies/orthocarbonates – 4925P
spiro resins against – 7623P
Sichuan Nonferrous Metals Industrial Corp
rutile (synthetic), plants – 7180
Sieving
data analysis, computers – 1256
equipment (proprietary) – 1724
powder coatings – 7456
shape classification, vibrating sorters & – 3759
Sigma Coatings
joint ventures
—Euroquartzo & – 7891
—marine coatings, Shinto Paint & – 3912
plants (new), Amsterdam – 4722
Sigma Coatings BV
powder coatings, polyvinylidene fluoride – 2200
Sigma Shinto Coatings Co
joint ventures, marine coatings – 3912
Signs
See also road signs
Silane Coupling Agents
adhesion, theory/practice/interfaces – 5327
adhesion promoters, cross-linking agents & – 6412
adhesives (epoxy) over, immersion tests – 267
adhesives (ultraviolet-curable), durability/optical properties etc – 6159
adsorption, on silica, NMR (silicon-29) – 6991
blends, adhesives, polyurethanes & – 8285P
carbon fibres, GC (inverse), acid/base interactions – 1915
chelates, silanes (acetoacetylated) – 7286P
chemistry/adhesion etc – 9028
coatings
—polymers/silyl groups/tin compounds & – 7596P
—siloxanes over – 8554P
graft copolymers, from polyolefins & – 979P
heat-resistant coatings – 1883P
photocurables, wrinkling/cracking – 8775P
polyethyleneimine (acetylated/silyl) – 7275
primers
—electronic components – 8531P
—for metals, adhesives over – 6407
products, with polymers, dispersants from – 7971P
sealers, silicones & – 6621P
sealers (radiation-curable) – 3839P
silica &
—dispersions/light scattering – 6153
—infrared spectroscopy/wetting – 6372
structure/mechanisms/proprietary/recommendations – 4872
talc & – 6734
treatment with, after phosphating – 2645P
ultraviolet-curables – 3860P
Silanes
acetylene groups, cyclopolymerisation – 188
adhesion promoters
— 71P
—for adhesives (water-borne) – 7423P
—vinyl alcohol polymers & – 8032P
adhesives, hydroxylics/isocyanates & – 8272P
allyl groups
—adducts with ketones – 4858
—polyfunctional, cyclopolymerisation – 191
anticorrosives, fluoropolymers particles etc & – 1088P
anticorrosives (water-borne), zirconates & – 5935P
antistatic coatings, zirconium compounds etc & – 1169P
blends, glass treatment, contact angles & – 3722
coatings
—anhydrides/aminosilanes products & – 5777P
—for galvanised steel – 5230P
—for lenses, acrylics etc & – 2757P
—siloxanes &, water resistance – 8168P
—siloxanes/silyl groups & – 7614P
—water/catalysts & – 8530P
condensates
—coatings, wheels – 8543P
—heat-resistant coatings, silica blends & – 9622P
—moisture-curables, polymers/silyl groups & – 9206P
—silica/acids & – 5940P
conductive coatings, oxides & – 3598P
conformational analysis – 1635
copolymers
—antifouling paints, heat resistance – 3492P
—heat-resistant coatings – 3595P
—photoresists – 4635
—with titanates – 9184P
cross-linking agents, for polymers (hydroxylic) – 2556P
cyclic, polymers with main chain units of – 188
emulsions, polymerisation, self-crosslinkables from – 5795P
flame-retardant coatings
—film formers (phosphorus-containing) & – 3551P
—polymers (phosphorus-containing) – 4391P
fluorinated
—nitrobenzyl groups, photoinitiators – 7114P
—plasma treatment, resists by – 1316P
heat-curables, siloxanes & – 8170P
high-solids coatings, viscosity reduction – 4169P
hydrolysed
—anticorrosives, polymers/silica & – 9481P, 9482P
—coatings for aluminium – 9483P
—coatings, electronic components – 4451P
—transparent coatings, silica blends & – 1166P
hydrolysis
—kinetics/mechanisms – 2492
—presence/absence fluorides – 2490
—silica coatings formation (in situ) – 287P
—silica coatings from – 285P
insulation, powders/acids/water & – 2703P

Silanes *(continued)*
isocyanate groups
—fluoropolymers surfaces modification – 4465
—products acrylates (hydroxylated) – 6423P
isocyanatophenyl groups, synthesis/products – 916
ketene acetals, isomerisation/propagation on – 4039
mercaptan groups
—amides links, ultraviolet-curables – 3826P
—moisture-curables blistering prevention – 6420P
mixtures, hydrolysed, coatings – 198P
moisture-curables, adhesion etc – 8528P
nitrobenzyl/fluorophenyl groups – 9888P
plasma, coatings – 2774P
plasma polymerisation, corrosion resistance – 1765
polymeric
—carboxylated, from phenylol/anhydrides – 9170
—ether-linked di/tetrasilane units – 184
—films ion beams treatment – 6650
—ladder, synthesis/uses – 4980P
—MS (laser desorption) – 7678
—other elements, powder coatings – 5036P
—photoresists, naphthalene derivatives & – 2164P
—resists – 3855P
—resists, diazoquinone-type units – 639P
—resists, esters groups (fluorinated) – 5476P
—Si-H/siloxanes groups – 6059
—silicon/methylene, products metalloxanes – 1596P
—silyl groups (pendent), from disilanes – 2506P
—spectroscopy/GPC – 6059
—synthesis – 8164P
polymerisation presence
—& fungicides, coatings – 6765P
—monomers (amino-containing) – 1090P
polymers modified by – 3562P
pretreatment, polymers/chromium(VI) & – 5125P
products
—with acrylics, moisture-curables – 6528P
—with cellulose derivatives – 4144P
—with polymers (amino-functional) – 1642P
—with silica/polymers – 1744P
—with talc, anticorrosives – 6734
resists, azides & – 638P
sealers (penetrating), for concrete – 3479
silamethylene siloxysilanes – 8524P
siloxanes (hydroxylic)/curing accelerators & – 197P
synthesis
—companies (US) – 9949
—via Grignard – 3984
treatment with
—for zinc/silicate paints – 4341P
—silica, reactions/NMR etc – 3701
—then fluorosilicic acid – 9561P
ultraviolet-curables, abrasion resistance – 3849P
undercoats, oligomers & – 6021P
unsaturated
—acrylic/urethanes, adhesion promoters – 8034P
—adhesion promoters – 6423P
—block copolymers, grafting – 4895
—blocking of siloxanes Si-H – 1641P
—coatings over polymers over plastics – 1845P
—condensates, radiation-curables – 7093P
—copolymers with siloxanes etc – 8446P
—electron beam-curables, conductivity (electrical) – 3858P
—from organo-lithium/epoxy products – 115
—hydrolysed, coatings for plastics – 8496P
—macromonomers from polyurethanes & – 6795P
—modified, copolymers, electrocoating – 2555P
—polymers, antifoulings – 6766P, 8466P, 8467P, 8468P, 8469P, 8471P
—radiation-curables, acrylates/silica & – 8787P
—telomerisation – 194
water repellents – 5902
water-bornes
—silanes separate component – 5056P
—silica/cosolvents/surfactants & – 955P
water-repellent coatings, acrylics & – 480P
waterproofing, acid scavengers & – 7561P
with mercaptan groups, siloxanes (unsatd/mercapto) & – 5485P

Silanol Groups
acrylates, synthesis/uses – 1501P
determination, GPC/infrared detectors – 1966
electrocoating – 5019P
silica, & esterification – 7750
siloxanes
—control – 2494P
—silylation/silica modelling – 7956

Silanols
condensates, coatings for plastics – 3558P
generators of, photocurables – 3854P

Silazanes
antifoulings, heat resistance, antifoulants – 3492P
heat-resistant coatings – 3595P
plasma, coatings – 2774P
powder coatings – 5036P
wire coatings, heat resistance – 4374P

Silica
See also quartz & tripoli
abrasion-resistant coatings
—carboxylates (unsatd) & – 5979P
—pens etc – 1167P
adsorption on
— 3763
—accelerators, solutions/rubber – 3329
—acetone, hexane solutions/interactions – 2891
—coupling agents, NMR (silicon-29) – 6991
—isotherms by HPLC – 3727
—polymers/NMR (deuterium) – 6966
—polystyrene, isotherms shapes/kinetics – 9749
aggregates, electron microscopy/image analysis – 2936
amorphous
—flow control agents – 5245P
—powders, standards – 8948
—synthetic, health & safety – 1423
anticorrosives
—epoxies & – 1085P
—scratch resistance, silanes etc & – 1088P
anticorrosives (water-borne) – 8432P
blasting, respiratory protection, equipment/standards – 3768
blends
—abrasion-resistant coatings, silanes condensates & – 9622P
—aq/non-aq, transparent coatings – 1166P
calcium-containing, anticorrosive pigments – 8992P
capsules, matt coatings – 1514P
carcinogenicity – 7768
chromating – 1751P
coated
—against water – 6802
—anticorrosive pigments – 5021P

Silica *(continued)*
coatings
—for plastics/glass, application – 9561P
—for steel (metal-coated) – 4345P
—for steel (zinc-coated) – 3496P
—formation (in situ) from silanes – 287P
—from silanes, catalysts & – 285P
—from silicates (org) – 479P
—on pigments (org) – 6384P
—on titanium dioxide – 3111
—resins/solvent blends, rheology etc – 8529P
—roughness/hydrophilicity – 5176P
colloids
—characterisation/micropores presence – 9757
—coatings, silanes condensates & – 5940P
—rheology, aggregate networks – 3619
—silicates hydrolysis in microemulsions – 9757
—stabilisation (steric)/interactions – 7715
cristobalite, powders, standards – 8947
crystalline, effluents, regulations (US) – 2972
dispersions
—non-aq, trace water effects – 759
—X-ray scattering (small-angle) – 3686
encapsulation, emulsion polymerisation presence – 5664
fine
—properties/formulation/uses, review – 3109
—water-bornes, negative charge precursors etc & – 5790P
FTIR, photoacoustic, temp effects – 2898
fumed
—anticorrosives, forming/electrocoating over – 8441P
—manufacture, plants (planned) – 1367
—surfaces groups/esterification – 7750
—treated, hydrophobicity, properties/adhesives – 9025
grafting, with polyisobutene, stabilisation by – 2263
hazards, review/books – 733
hazards/standards/dysfunction measurements – 6191
health & safety, standards/review – 1422, 1423
interactions, with zirconium chelates (polymeric) – 6044
ion exchange
—anticorrosive pigments – 758
—anticorrosive pigments, primers performance – 6698
—calcium ions, anticorrosive pigments – 364
manufacture, plants expansion – 4705
markets – 7941
master batches, mixing with pigmented – 1685P
microspheres, from silicates, size/pores – 1458
modified
—by silanes, reactions/NMR etc – 3701
—grafting with vinylpyrrolidone – 8123
—surfaces, GC (inverse) – 523
natural, standards – 3939
NMR (proton, solid-state) – 1195
particles, packing (ordered), domain size – 2012
particles (coated), light scattering, contrast variation – 7737
photoinitiators (bound), synthesis/polymerisation – 9834
porosity, by mercury, problems – 2920
precipitated
—in org media, coupling agents & – 6372
—manufacture, joint ventures/plants – 3900
—manufacture, Taiwan, plants expansion – 4708
—surfaces groups/esterification – 7750
pretreatment with, & metals (trivalent) – 325P, 1738P
primers, before metal coatings – 1141P
printing (ink jet), substrates – 8302P
products
—with polymers/silyl groups – 1792P
—with silanes/polymers, pretreatment – 1744P
reaction, with ethylene glycol – 8163
sands, producers/deposits/capacities/output/uses – 7941
stabilisation (steric), grafting, solvents etc effects – 2941
standards – 3088
surfaces
—modelling by siloxanes – 7956
—reactions epoxidised polybutadiene – 4048
suspending agents, suspension polymerisation – 9041P
synthetic, companies/markets etc – 5613
thickeners, paint strippers – 9394P
thixotropic compsns, polycarboxylic acids amides & – 2610P
toxicology, review – 1423
treated
—adsorption on – 4495
—by silanes/silicones – 5054P
—dispersions in non-aq – 6153
undercoats, epoxies (modified) & – 1799P
zinc dust paints, welding voids avoidance – 1787P

Silica Gel
modified, by polyethyleneimine (acetylated/silyl) – 7275

Silica Sols
anticorrosives, aluminium phosphate/curing agents & – 9503P
modified, antistatic coatings – 7600P
titanium dioxide sols & – 7236

Silicate Paints
See also zinc/silicate paints, zinc/ethyl silicate paints & zinc/potassium silicate paints
buildings, cellars – 301
corrosion resistance, fluosilicates – 3478
dispersants, diphosphates/wetting agents etc – 3150P
extenders, function/formulation etc – 762
for steel (zinc-coated), Zn/Ni alloys substrates – 4327
over water repellents impregnation – 363
pigments, stability/optical properties & – 223
properties/formulation/stabilisation – 222
thickeners
—cellulose esters/comparison – 54
—urethanes, & cellulose ethers – 58
walls – 358

Silicates
analysis, standards – 727
anticorrosives, aluminium phosphate/curing agents & – 9503P
blends, heat-resistant coatings – 9635P
chromium-containing, pigments – 761
coated, anticorrosive pigments – 5021P
coatings, roughness/hydrophilicity – 5176P
coatings (inorg), oxides/aluminates/phosphates & – 8481
flow control agents – 3149P
heat-resistant compsns – 6010P
hydrolysis, silanes &, coatings – 8167P
lamellar, thickeners, xanthan gum & – 6561P

Silicates *(continued)*
layered lattice, particles, surfaces modification – 3969P, 3970P
organic
—coatings, oxides &, infrared emissions – 2785P
—condensation presence water/solvents – 479P
—products with polymers, moisture-curables – 2704P
synthesis
—companies/processes/uses/raw materials – 5613
—manufacturers (Italian) acquisition – 4716
Silicic Acid
compounds, composites with flame retardants – 9543P
natural, standards, analysis – 727
particles (fine), via emulsions – 4821P
Silicochromates
– 761
Silicon
coatings for, stripping – 9395P
determination, in paints, X-ray fluorescence – 6922
lubricating coatings for, abrasion resistance etc – 4413
Silicon Carbide
adhesives, semiconductors manufacture – 9264P
coatings, pumps/erosion resistance – 9420
primers, before metal coatings – 1141P
Silicon Compounds
synthesis/companies/processes/uses etc – 5613
Siliconates
synthesis, from silica – 8163
Silicone Oils
antifoulings
—siloxanes (unsatd) polymers & – 8465P, 8470P
—siloxanes etc (unsatd) polymers & – 8466P, 8468P, 8469P, 8471P
coatings, polyethylene/thermosetting & – 5229P
fluorinated, lubricating coatings, epoxies etc – 9620P
printing inks (radiation-curable), driography – 9895P
thermogravimetry – 7647
water repellents, solvent blends/other compounds & – 6748P
Silicone Rubber
filled, adhesion of adhesives to – 9268P
treatment
—with plasma, groups formed, FTIR – 6105
—with plasma, polymers – 1890
wire coatings, mechanical properties/heat, modelling – 6864
Silicones
adhesives (conductive) – 6584
adhesives (ultraviolet-curable), adhesion promoters & – 8034P
anticorrosives – 8418
antifoulings
—primers – 6025P
—testing, rafts then flow cells – 3505
branched, product linear, marking inks – 9321P
cementitious coatings, before antifoulings – 6025P
coatings
—amide groups (halogenated) & – 2779P
—for cans, polymers & – 6847P
—for plastics, curing (shock) – 3558P
—for plastics, effects – 5976
—for plastics, review – 3554
—on metal foils – 474P
—on particles – 1484P
—review – 3311
—thermal shock resistance – 2780P
—water uptake/diffusion – 6965
coatings etc
—adhesives for substrates with – 9287P
—buildings – 5922
cross-linked, over water-bornes, strippables – 1147P
fluorinated
—fluoropolymers/acrylates & – 1785P
—oil repellency/water repellency, silicones & – 9581P
gels, tapes impregnated with – 4308
glycol links, from chlorosilanes/glycols – 8152
graft copolymers, moisture-curables – 1639P
grafting, for powder coatings – 980P
hammered finishes – 5220
heat-curables
—epoxy/phenolics & – 4936P
—over cementitious – 5249P
heat-resistant coatings, selection/application etc – 6812
hydrocarbons modified by, release coatings – 5987
ladder, partial, resists systems – 3823P
lubricants, at coatings surfaces, chemically-bound – 1175P
macromonomers, copolymers, release coatings – 9619P
migration, to surfaces, on films orientation – 9610P
modified
—adhesives (epoxy), catalysts etc & – 5057P
—by fluorocarbons then acrylic etc monomers – 2496P
—lubricants – 4453P
—metals groups with groups on metals – 8475P
particles, in epoxies – 3596P
polymerisation, of inhibited – 9602P
polymers modified by, resists systems – 3823P
polyurethanes modified by, interpenetrating networks – 825P
powders, from silanes/siloxanes – 7366P, 7367P
pressure-sensitive adhesives
—book chapters – 8264
—developments/new uses – 991
—temp (low/high) uses suitability – 3373
products
—with siloxanes, thermal shock resistance – 4978P
—with waxes, lubricants – 5030P
products based on, plants (Brazilian) – 7857
proprietary compsns – 5922
release coatings
—posters prevention/labels release – 8536P
—types/properties/uses etc – 8507
release coatings (radiation-curable) – 2996
release coatings (ultraviolet-curable) – 8764
sealants
—volatiles analysis – 2868
—volatiles/hazards/corrosion/interactions – 1021
sealants (ultraviolet-curable) – 7809
sealers, for mortars – 6621P
silyl groups, moisture-curables – 214P
solventless coatings, siloxanes/catalysts & – 2567P
synthesis
—companies (US) – 9949
—joint ventures, cancellation – 3903
—plants (planned), Spain – 1368
synthesis/coatings markets/curing/trends – 4118

Silicones *(continued)*
types/properties/solvent-bornes/water-bornes – 9172
unsaturated
—printing inks (radiation-curable) – 9894P
—release coatings (radiation-curable) – 5402
—Si-H &, stabilisers for – 6413P
—ultraviolet-curables, electronic components – 7071
water repellents – 5902
water-bornes
—exterior – 2491
—facades – 8205
—surfactants blends/polymers & – 5788P
wetting promoters – 5063P
with Si-H bonds, unsatd &, stabilisers & – 6413P
Silking
iron oxide hydroxide (acicular), 'velour' & – 489
Siloxanes
See also epoxy siloxanes
acrylic/urethanes with segments, ultraviolet-curables/properties – 2124
activity coefficients/molar volumes/vapour pressure etc – 1971
additives, types/properties balance – 8018
adhesion, to non-porous difficult – 9585P
adhesion promoters – 71P
adhesion promoters for, aminosilanes (cyclic) – 3999P
adhesives, cross-linking agents/promoters/acid scavengers – 9262P
alkoxylated, moisture-curables – 6531P
amino groups, telechelic, synthesis – 5761
amino-functional
—bismaleimides – 6527P
—from cyclics/amino siloxanes, catalysts – 912
—from siloxanes/allyloxyanilines – 4138P
—modified by carboxylic acids – 3584P
—polyamide-imides – 2497P, 2498P
—polyimides – 921, 2499P, 2500P, 9145P
—polyimides from bismaleimides etc & – 4139P
—products with acrylic/urethanes – 642P, 932P
—products with dianhydrides – 9185P
—products with siloxanes – 187
—synthesis from cyclics – 4126
—treatment with, pigments manufacture – 32P
anticorrosives
— 6745P
—blends/functional silanes – 396P
blends
—with polyphenylene oxide, types/properties – 9738
—with polyurethane-ureas, phase separation/additives – 189
block copolymers
— 4974
—adhesives, to surfaces – 5830P
—phase separation – 891
—second segments compatibility polymers – 6422P
—synthesis – 4022
—with polyamide-imides – 4981P
—with polycarbonates – 1110P
—with polyurethanes – 189
carbazoles groups, electrochemistry/colour changes – 8574
carbazoles groups (pendent), photoconductivity – 4120
catalysts &, organo-tins – 6529P, 6530P
cathodic protection – 9486P
chain extension, conditions/extent of reaction – 1638
chlorinated, hydrolysis, kinetics – 4119
coatings
—acids (org, fluorinated)/acids (org/inorg) – 9585P
—acrylics/isocyanates & – 8155
—against ice – 1162P, 3601P
—against ice etc, organo-lithium & – 1135
—amide groups (halogenated) & – 2779P
—epoxies &, phase separation/evaporation rate – 9693
—holograms with – 9552P
—on ultramarine pigments – 3127P
—silanes & – 7614P
—silicates/silanes hydrolysis – 8167P
—thermal shock resistance – 2780P
—zirconium hydrolysates/silyl groups & – 8437P
comb, polyethers side chains, synthesis/properties – 915
conformational analysis – 1635
copolymers
—acetal/orthocarbonate groups, photoresists – 4655P
—cinnamates main chain – 281
—coatings against ice etc – 1135
—heat-curables – 2527P
—polyimides segements, oxygen (atomic) resistance – 4419
—polyureas – 4974
—SIMS – 2848
—synthesis/uses, review – 7283
—urethanes segments – 5236P
—with epoxies – 187
—with polyethers, modification/flow control agents – 62P
—with polyimides, synthesis/properties – 8653
cross-linked, unsatd groups, grafting styrene on – 920
cross-linking
—by organo-silicons – 3318
—FTIR (photoacoustic) – 4491
curables, silanes &, water resistance – 8168P
cyclic
—bisimides linking groups – 8165P
—equilibrium/fractions (linear/cyclic)/properties – 6131
—liquid crystals groups – 6608
—polymerisation (anionic), Lewis acids direct – 4973
—polymerisation, mechanisms/redistribution etc – 5766
—polymerisation/copolymerisation, review – 3312
—products with isocyanates/amino resins – 1798P
deposition, from silanes vapours/atomic oxygen – 3008P
determination, analysis (trace), FTIR – 6911
dispersions (aq), silicones/copolymers & – 4352P
emulsion polymerisation, silanol/aminoxy groups – 4982P
films, SIMS – 6918
fluorinated, sealers, epoxy/novolacs & – 434P
from cardanol/allylphenols – 5765
functional
—coatings, fluoropolymers (reactive) & – 3490P
—coatings, isocyanates & – 5767P
—telechelic, synthesis – 5762
GPC, functional groups determination/MW – 1966

Siloxanes *(continued)*
groups
—acrylics, coatings for plastics – 422P
—acrylics, hydrolysable groups – 4168P
—acrylics, pattern-forming materials – 3014P
—allyl groups, styrene copolymers, resists – 5477P
—pendent, polyvinyl alcohol, resists – 9860P
—polydienes, anti-foaming/deaeration – 4877P
heat-curables, silanes &, pore-free products – 8170P
heat-resistant coatings – 1149P
HPLC (reverse phase), gradient (thermal)/detectors – 4481
hydrolysable groups, coatings, polymers (hydroxylic) & – 4137P
hydrosilylation, catalysts inhibitors – 3323P
hydroxylic
—coatings, metal salts & – 1171P
—condensation/catalysts – 6525
—cross-linking, FTIR (photoacoustic) – 6110
—functional groups – 5768P
—products isocyanates, mechanical properties – 5768P
—release coatings, Si-H & – 459P
—silanes (unsatd) &, then grafting – 920
—silanes/curing accelerators & – 197P
—synthesis/products – 5768P
interpenetrating networks
—acrylics & – 8682
—full/semi-, synthesis/properties – 815
—polyethers & – 3169
—polyphenylene oxide & – 9738
—porous microstructure – 86P
—sequential, catalysts problems – 5663
intumescent compsns, volatiles in microspheres – 1109P
ladder
—azido groups, photoresists – 7815P
—block copolymers, siloxanes & – 8162
—coatings, alkoxides & – 6526P
—coatings, borosiloxanes & – 6022P
—coatings, carboxylates/phosphates & – 1655P
—coatings, esters/carboxylates & – 946P
—heat-curables, deformation partially cured – 1170P
—heat-resistant coatings, borosiloxanes & – 4448P
—photoresists – 4635, 6237P
—photoresists, diazonaphthoquinones & – 5475P
—photoresists, diazonaphthoquinonesulphonates/active H & – 9858P
—photoresists, diazoquinones groups on phenolics – 9857P
—resists – 8776P
—resists, electron beams – 8750
—structure/film properties – 8162
—synthesis/electrical insulation – 1822P
liquid crystals groups, review – 8043
liquid crystals groups (pendent) – 7361
lubricating coatings, for silicon – 4413
melts, mica/mica surfaces interactions – 1251
mercapto group-containing
—products acrylates (polyfunctional), carbonyl – 4983P
—siloxanes (unsatd) copolymers & – 2493
—siloxanes (unsatd) etc & – 5485P
—siloxanes (unsatd)/organo-silicons & – 2169P
microemulsions
— 9176P
—by emulsion polymerisation – 8169P
modified
—additives, thermo-oxidation/adhesion (intercoat) – 2489
—by polyisocyanates, products with polymers – 4130P
moisture-curables
—organo-silicons/treated fillers & – 8196P
—silanes/catalysts etc – 5004P
monolayers etc, on water – 7720
naphthoquinone derivatives groups – 1285
on water, wetting/non-wetting, MW & – 7720
organo-tin groups, antifoulings – 9510
oxazoline groups – 4128P
particles (core/shell), siloxanes on emulsion polymers – 1542P, 1543P
photopolymerisables, functionalisation, review – 1299
photoresists
— 4635, 6237P
—diazonaphthoquinonesulphonates/active H & – 9858P
—diazoquinones & – 4651P
—diazoquinones groups on phenolics – 9857P
—phenolics/diazoquinones & – 7821P
—photosensitisers & – 2165P
photosensitive compsns, ketones & – 9859P
phthalic anhydride groups, polyimides modified by – 2502P
plasma, coatings – 2774P
plasma polymerisation
—ESCA/FTIR/structure – 9169
—parameters/coatings properties – 2635
polyethers (pendent), release coatings – 481P
polyimides from, synthesis/coatings – 8166P
polyimides modified by, synthesis/coatings – 2495P
polyisocyanurates, from isocyanates & – 1630P
powders
—by drying (spray) – 4985P
—from polymers (water-soluble) & – 1676P
printing inks (radiation-curable), driography – 9895P
printing inks (screen), thixotropic agents & – 3406P
products
—with imides – 6771P
—with silanes, particles in epoxies – 3596P
—with silicones – 4978P
radiation-curables, adhesion promoters – 71P
release coatings
—curing agents/catalysts/acetic acid & – 9633P
—for films (orientated) – 7613P
—over coupling agents – 8554P
release coatings (ultraviolet-curable) – 8805P
resists
— 3012P, 4634, 4664P
—diazonaphthoquinones/polymers & – 3845P
—nitrobenzyloxyphenyl groups – 3855P
scratch-resistant coatings, cross-linking, siloxanes formers/co-reactives – 8522P
sealants, polyvinyl chloride/lignin & – 6615
sealants (moisture-curable), organo-silicons & – 6618P
self-crosslinkable, emulsions – 5795P
sesquisiloxanes type
—coatings for plastics – 1125P
—hydroxyphenyl groups, alkali-soluble – 616P
—layers, electronic components – 1145P
—resists – 616P

Siloxanes *(continued)*
—resists, terminal acetylation – 1305P
silanol groups
—pressure-sensitive adhesives – 8264
—silylation/silica modelling – 7956
SIMS – 6950
solventless coatings
—blends, components inter-reaction – 2566P
—silicones/catalysts & – 2567P
spectroscopy, silicon/oxygen partial double bonding – 4518
structure/film properties – 8162
synthesis
—aq media, transfer to solvents media – 8522P
—cyclics/lithium silanolates/halogenated silanes – 6532P
—from chlorosiloxanes/chlorosilanes – 4119
—from silica – 8163
—lasers/silanes/acrylates in – 5670
—silanol groups control – 2494P
synthesis/cross-linking, review – 3313
temporary protection, welding scale prevention – 6747P
thixotropic agents, printing inks (screen) – 3406P
thixotropic coatings, titanium dioxide & – 454P
titanium dioxide modification – 4830P
topcoats, over photochromic – 6614P
toughened, styrene polymerisation (in situ) – 186
transparent coatings, silica/heterocyclics/aluminium compounds – 462P
treatment
—hydroxyl groups reduction – 924P
—hydroxyl groups removal – 925P
ultraviolet absorbers (chemically-bound) – 5653P
ultraviolet-curables, strippable compsns – 9885P
water repellents
— 5902, 8434P
—silicate paints over – 363
waterproof coatings – 249P
with Si-H bonds
—adducts with allyloxyanilines – 4138P
—anticorrosives – 6745P
—blocking with silanes (unsatd) – 1641P
—catalysts microcapsules – 923P
—coatings, acrylics/siloxanes & – 2800P
—heat-curables – 2505P
—optical fibres (coated) – 8556P, 8557P
—polyisobutylene modified by – 9178P
—pressure-sensitive adhesives – 9260P
—primers, solvents – 3986P
—printing pastes – 6607P
—products acrylics (allyl-terminated) – 8659
—products with siloxanes (hydroxylic) – 396P
—reactions allyl, isomerisation & – 4127
—release coatings – 481P
—release coatings (water-borne) – 7624P
—release coatings, hydroxylics & – 459P
—release coatings, silicones copolymers & – 9619P
—siloxanes (hydroxylic) & – 249P
—siloxanes (unsatd) copolymers & – 2493
—synthesis/uses – 4984P

Siloxanes, Unsaturated
acrylates groups, linked via carbonates – 1297
adhesives (radiation-curable), isocyanurates & – 5488P
allyl groups, synthesis – 4131P
amino-functional, adhesion promoters – 637P
antifoulings – 6766P
carbonate groups links – 3324P
cinnamates etc groups (pendent), synthesis – 5420
coatings, acrylates & – 9559P
copolymers
—coatings – 8446P
—composition distribution – 6104
—dispersions, antifoulings – 9531P
—high-solids coatings, flexibility – 5776P
—hydrolysable groups – 945P
—silyl groups, antifoulings – 1101P
cyclic, photoresists, polybutadiene (modified) & – 1322P
from siloxanes (vinyl)/silanes (Si-H)/hydroxysilyl acrylates etc – 8807P
ladder
—photoresists – 6224P
—resists – 8776P
macromonomers
—copolymers, heat-curables – 3488P
—from initiators/cyclic – 5766
—from isocyanates (unsatd)/siloxanes, copolymers – 926P
—from siloxanes (cyclic)/initiators – 193
—polyfunctional, copolymers (unsatd) – 2493
—synthesis – 914
photocurables, siloxanes (mercapto)/silanes (mercapto) & – 5485P
photopolymerisable compsns – 2168P
polymers
—antifoulings – 8465P, 8466P, 8467P, 8468P, 8469P, 8470P, 8471P, 8472P
—antifoulings, water repellents & – 8463P
—coatings – 3410P
products, with polyurethanes, macromonomers – 6795P
release coatings, siloxanes (Si-H)/olefins & – 9592P
resists, electron beams – 1307P
silethylene links, photocurables – 2170P
siloxanes & – 2503P
siloxanes (Si-H) &
—catalysts microcapsules – 923P
—heat-curables – 2505P
—optical fibres (coated) – 8556P, 8557P
—primers, solvents – 3986P
—release coatings (water-borne) – 7624P
surfactants – 4133P
synthesis
—from cyclic, structure/catalysts – 8151
—from siloxanes/isopropenyloxysilanes/acrylates – 2168P
—functionalisation methods – 1299
—transesterification in – 2504P
ultraviolet-curables
— 7118P
—mercaptans/stabilisers & – 3006P
—phenones blends/amines/titanates & – 9854P
—siloxanes (mercapto)/organo-silicons & – 2169P
water-bornes – 4133P

Silver
alloys, powders, conductive coatings – 467P
flakes, globules &, pastes, thixotropy, silica & – 9282P
powders, manufacture, from nitrates – 2271P

Silver Sulphide
layers, pigments (polymeric, black) – 3975P

Silyl Groups
acetylenes, synthesis/polymerisation – 5764
acrylates – 5643P

Silyl Groups *(continued)*
acrylics
—antifouling paints/hydrolysis (slow) – 7585P
—antifoulings – 424P
—bicycloheptane etc groups – 7368P, 7369P
—coatings against ice etc – 1135
—coatings oxazolines & – 5847P
—deblocking, isocyanates reaction – 8189
—electrocoating – 8217P
—isocyanates & – 6797P
—latices (core-shell) – 4443P
—primers for aluminium – 6835P
—stoving finishes, hydrolysis catalysts etc – 9205P
acrylics (fluorinated), moisture resistance/release properties etc – 9589P
acrylonitrile copolymers, moisture-curables – 478P
aldols, from silyl enol ethers – 2487
benzotriazole derivatives – 5653P
bisimides, coatings – 9636P
butadiene, maleimides & – 2782P
carbonates (difunctional) – 199P
cardanol (modified), hydrolysis – 5765
cellulose (modified) – 2708P
coatings, interactions with substrates – 1878P
cross-linking agents, electrocoating (cathodic) – 2554P
dispersants (polymeric) – 5654P, 9208P, 9209P
electrocoating – 5019P
electrocoating (anodic) – 8216P
epoxies, powder coatings/properties – 2565
epoxy/acrylates, ultraviolet curing/curing – 3799
esters, polymers with, antifoulings – 2736P
esters (unsatd), curable compsns – 8789P
ethylene copolymers
—adhesion to aluminium – 6043
—moisture-curables – 5963P
fluoropolymers
—coatings – 9587P
—curables – 4151P
half-esters (unsatd), resists – 3842P
halogenated, pendent, sealants (moisture-curable) – 1022P
imides, coatings from condensates – 9580P
initiators, organo-metallics – 2531P, 2532P
isocyanates
—coatings, fluoropolymers & – 5225P
—fluoropolymers (reactive) & – 210P
—reaction diacid chlorides – 8138P
ketene acetals, acylation/telechelic diols synthesis – 4041
metallic finishes, carboxylated etc copolymers & – 1860P
moisture-curables, silanes/aminosilanes & – 9204P
novolacs, resists – 7101P, 7102P
olefin polymers, moisture-curables – 6531P
organo-silicons, wood treatment, coatings after – 1802P
pendent, silanes (polymeric) – 2506P
pentamethyldisilyl, styrene, polymers/copolymers/NMR – 9173
phenols, novolacs/photoresists from – 6229P
polyesters
—from unsatd/Si-H, & moisture-curables – 2501P
—zirconates & – 9598P
polyisobutene, moisture-curables, antioxidants & – 4163P
polymers
—catalysts/acetals &, stability – 9175P
—coatings, diesters etc & – 213P
—coatings, epoxy compounds &, pot-life – 5001P
—coatings, ketals & – 1654P
—coatings, silanes & – 7614P
—coatings, stability (storage) – 5775P
—coatings, tin compounds, amine/silicones & – 7596P
—coatings, water-bornes/wet-on-wet & – 9588P
—electrocoating (cathodic) – 1665P, 8215P
—isocyanate groups, moisture-curables – 9214P
—moisture-curables for plastics – 9549P, 9550P
—moisture-curables, adhesion etc – 8528P
—moisture-curables, silanes condensates & – 9206P
—oxides/hydroxides & – 1163P
—photoresists – 3013P
—polymerisation presence – 9491P
—products with silica – 1792P
primer sealers, silyl groups & – 4447P
resorcinol-formaldehyde resins, synthesis/resists – 3815
silicon-sulphur bonds, moisture-curables – 217P
silicones, moisture-curables, waxes & – 214P
siloxanes (unsatd) copolymers – 1101P
silyl enol ethers, reaction with aldehydes – 2487
silylthio, moisture-curables – 5852P
styrene copolymers, allyl &, resists – 5477P
sulphides, photopolymerisation, telechelic products – 4140P
telomers (living), polymers from – 4165P, 4166P
trifluoromethanesulphonates, initiators – 4030
vinyl alcohol polymers, synthesis/hydrolysis steps – 1643P
Silynes
polymeric, synthesis, alkylsilicon trichlorides reduction – 7357
Simplex Method
HPLC, elutants optimisation – 2903
Single European Market
See European Economic Community
Sinochem
titanium dioxide, plants, construction contracts – 4715
Sistema Nazionale per l'Accreditamento di Laboratori – 8843
Sister Chromatid Exchange
benzene, exposure (low), studies – 2115
chromium (hexavalent), exposure/not correlate – 4598
Size Exclusion Chromatography
See gel permeation chromatography & exclusion chromatography
Sizing
paintings &, strains/humidity/cracking – 7731
Skin
acrylamide – 7024
cancers of, printing industry – 2960
diseases, chemical industry, resins/paints/solvents etc – 5351
ethylene glycol monobutyl ether – 5365
irritants, solvents testing/prediction – 563
irritation
—butylphenol – 2955
—low, acrylates (polyfunctional) – 9117P
—metals/plastics/rubber – 5343
paints removal, strippers (water-borne) – 5131P
phthalates, absorption – 8709
sensitisation, ranking/animal studies results adjusting – 2072
trichloroethylene inhalation effects on – 2073
ultraviolet radiation – 5378

Skin *(continued)*
urticaria (contact), naphtha in solvents – 2074
volatiles, exposure, monitoring – 6901
Skinning
control, agents – 1827P
resistance to, pastes, conductivity (electrical) & – 3593P
Slag
abrasives
—for blasting – 5883
—testing – 5881
calcium carbonate from water used to cool – 8990P
coatings – 2787P
mineral
—abrasives before anticorrosives – 9369
—abrasives, copper – 2634
—abrasives, heat treatment effects – 3449
—abrasives, testing – 5881
—abrasives, zinc – 2634
Slate
coatings, vinyl acetate/methyl methacrylate copolymers – 8105P
tiles, powder coatings – 1683P
water-bornes for
— 955P
—acrylic/urethanes copolymers – 974P
Slip Resistance
See also anti-slip coatings
determination, testing methods, mechanical/human – 9646
Sludges
organics/inorganics mixtures, treatment – 2978P
Slurries
aqueous, titanium dioxide, bacteria/hygiene/biocides – 2715
calcium carbonate – 1575P
handling, equipment (proprietary) – 3413
kaolin, rheology – 6877
kaolin (bulked), dispersants – 3973P
talc, anti-foaming agents – 1120P
Smelt
titanium dioxide construction plants – 4715
Smoke
barriers against, intumescent compsns – 1109P
control, definitions, standards – 8941
corrosion – 383, 384, 385, 7550
hydrogen chloride in, toxicity/carbon monoxide – 1273
inhalation, fire-fighters – 5346
plastics, fire retardants effects – 4568
toxic/irritant, coatings without, wallcoverings – 1835P
Snow
coatings against
—new systems – 1135
—siloxanes (unsatd) copolymers – 945P
—siloxanes/polymers/surfactants – 1162P
friction (low) on, metals (coated) – 5243P
protection by – 2671
roads covered by, road marking compsns – 9612P
Soaps
metal
—anticorrosives (thermosetting) – 5170P
—corrosion inhibitors, hydroxyaryl groups – 5173P
—printing (intaglio) – 273P
Societe Industrielle de Voisins
activities/powder coatings – 6319
Society of Dyers & Colourists
colour index of, additions & amendments to – 765, 3110, 4817, 7239
Sodium Bisulphite
initiators, metal salts effects – 836
Sodium Borate
wood preservatives, carbonates & – 3531P
Sodium Carbonate
wood preservatives, borates & – 3531P
Sodium Chloride
effluents containing, treatment – 7799
Sodium Dodecyl Sulphate
water-bornes, adhesion – 8607
Sodium Hyposulphite
synthesis, wastes, zinc oxide from – 7973P
Sodium Pentachlorophenate
replacement, timber (post-treatment) – 3509
wood preservatives, testing/concentration – 3527
Sodium Polyacrylate
See 'polyacrylate, sodium'
Sodium Silicate
See also water-glass
anticorrosives (water-borne) – 1091P
solutions, structure – 7703
Sodium Sulphate
effluents containing, treatment – 7792
Soft-feel Coatings
See also entries under polyurethane coatings
polyamides powders/polymers solutions – 1869P
polymers (hydroxylic)/isocyanates/siloxanes/particles – 9594P
polyurethanes – 9220
siloxanes – 5795P
vehicles (motor) – 5196
Softening
polyesters/melamine resins, overstoving – 9642
Softening Point
cyanoacrylates/vinyl methyl ketone copolymers – 9131
Soiling
See also dirt
coatings, aircraft – 5146
resistance
—coatings for retroreflection sheets – 3587P
—siloxanes (unsatd) copolymers – 945P
temporary protection – 1078P
Soils
pipeline coatings &, moisture/corrosion & – 5151
sulphates in, determination – 4531
Solar Energy
absorption, storage/release as heat – 4737
collectors, coatings (selective), requirements/formulation – 2763
reflectors, mirrors, transparent coatings – 3995
Solder Mask Coatings
acrylic/urethanes
—blends – 618P
—epoxy/acrylates & – 7110P
—from pentaerythritol etc – 8811P
—from polybutadiene – 4663P
acrylics/essential components/diluents (reactive) – 603P
anhydrides (unsatd) copolymers (modified), epoxies/monomers & – 3022P
curing agents, iron complexes – 4890P
epoxies
—& epoxy/novolacs products (unsatd) – 7820P
—from phenylene sulphide phenols – 9882P

Solder Mask Coatings *(continued)*
epoxies (cycloaliphatic)/unsatd compounds – 4660P
epoxies (modified) – 5994P
epoxies/trisphenols glycidyl ethers – 5478P
epoxy/acrylates, half-ester/urethane groups, epoxies & – 3025P
epoxy/novolacs, acrylates & – 3853P
epoxy/novolacs (unsatd) – 5487P
epoxy/urethanes (unsatd) – 613P
hydroxystyrene polymers, epoxy/acrylates etc – 1319P
maleic anhydride copolymers (modified) – 7827P
photoinitiators/initiators blends, & coupling agents – 3860P
plating (electroless) resistance, epoxies/hydrazinotriazines – 2791P
powder coatings (radiation-curable) – 3821P
strippable compsns – 8794P
Solderability
wire coatings
— 4429P
—polyester-imides – 4109P
Soldering
dipping, resistance to – 3853P
wire coatings, polyester-imides – 9532P
Solders
resistance to, electron beam-curables, conductivity – 2174P
Solidification Point
See also freezing point
Solids
separation, from liquids, methods – 290
Solids Content
determination
—adhesives – 1403
—adhesives (water-borne) – 1401
—adhesives, balances/infared drying – 6119
—methods – 847
polyols, alkanolamines/isocyanates in polyols – 3246P
Sols
aluminium oxide, coatings, roughness/hydrophilicity – 5176P
coatings of, on particles – 1484P
Solubilisation
acrylics, ultraviolet radiation – 3812
diethanolamine derivatives, for surfactants – 808P
driers for – 3486P
Solubility
acrylics, silyl etc groups, dissolution (slow) – 7368P, 7369P
amino resins – 8887
chromium dioxide, in water, stabilisation & – 6117
organics, in polymers, calculation from structure – 7719
solvents, in polymers, low solvent levels, GC (inverse) – 2843
vapours (org), in polymers, by optical waveguides (coated) – 1245
Solubility Parameters
acetoxystyrene polymers – 7700
copolymers blends/phase separation, coatings – 3497P
determination
— 9731
—GC (inverse), polymers/plasticisers – 2930
—GC (reversed-flow) – 7645
epoxies (cured), calculation/experiment – 7705
hydroxystyrene polymers – 7700
polyester-amides – 1613
polymers/solvents/diluents composition diagrams – 2019
styrene/divinylbenzene copolymers synthesis, diluents – 8688
types/need for – 7701
Solution Properties
diethyl malonate/vinyl acetate copolymers – 5308
epoxies (cured) – 7748
epoxies (linear) – 9741
GC (reversed-flow) – 7645
polymers
—colligative properties – 1961
—degenerate critical states, criteria – 3712
—hydrodynamic properties, review – 1894
—theory/equations/review – 2011
viscosity (intrinsic), solvents (poor), theory/collapse – 1184
xanthan gum – 3739
Solutions
See also critical solution temperature
colligative properties, simple molecules/polymers – 1961
supersaturated, nucleation – 6148
Solvent Blends
adhesives, for plastics – 3380P
amino resins &, tolerance – 8887
azeotropes, dichlorodifluoroethanes/methylpentanes – 6404P
chlorofluorocarbons/alcohols, water displacement – 8004P
desorption, from carbon, time/GC – 4499
developments, alternatives/present position – 4855
dichlorodifluoroethanes/alcohols – 6405P
dichlorodifluoroethanes/methylpentanes – 6405P
dichlorodifluoroethanes/trichlorotrifluoroethane/alcohols – 9014P
difluorotetrachloroethane/petroleum fractions – 1496P
electrical insulation, solvents (fluorinated) etc – 4371P
evaporation, rate, determination, individual/total – 4482
flash point, prediction/UNIFAC – 1266
for alkyds, rheology – 2839
interactions, between solvents – 6141
NADs – 5002P
polymers &, solutions/ternary effects – 7726
polyvinylpyridine in, viscosity/light scattering – 3750
preferential solvation/cosolvency – 2042
printing inks (ink jet) – 5062P
processes in, models (empirical), review – 49
sulphoxides, bases & water/alcohols – 3142P
toxicity, kidneys – 553
trichloroethane, formulation/use – 5638
writing inks, rheology – 5068P
Solvent Resistance
anticorrosives (water-borne) – 1084P
coatings
—acrylics/epoxy compounds etc – 4410P
—cross-linking agents – 8492P
—for plastics – 1118P
—vinyl ethers (difunctional) – 1146P
copolymers, blends, solubility parameters/phase separation – 3497P
isocyanates products – 1618P
polysulphides, treatment – 928P

Solvent Resistance *(continued)*
polyurethane coatings – 9624P
undercoats, for recording materials (magnetic) – 1712P
vinyl alcohol copolymers (fluorinated) – 6485P
vinyl chloride copolymers (hydroxylated) – 6484P
Solvent Vapours
cleaning, plants design/pollution control – 6201
coatings &, swelling/disbonding/acoustic emissions – 2835
detectors, thin film – 506
emissions, painting hot substrates – 2944
mixtures, analysis, FTIR – 9725
oxidation, catalysts – 9823
Solvent-borne Coatings
comparison, with water-bornes – 1660
polyimides (aromatic) – 4157P
solubility parameters – 7701
statistics (Italian) – 2118
volatiles partial replacement polyethers – 6402P
Solvent-borne Compositions
See also adhesives, inks & printing inks
Solventless Coatings
See also anticorrosive, polyurethane & release coatings
alkyds, acrylics/amine salts/polymers etc & – 8238P
diluents (reactive), polyols esterified by unsatd – 1493P
epoxies
— 1771
—formulation – 976
—polyamine-amides (modified) & – 2564
maleimides/pyridazines etc – 256P
polyesters (unsatd) – 1827P
silicones/siloxanes, reactive, catalysts & – 2567P
siloxanes, blends, components inter-reaction – 2566P
Solventless Compositions
acrylic/urethanes – 1622P
epoxies/urethane precursors/monomers/mixed curing agents – 9876P, 9877P
polyurethanes, drying oils/plasticisers & – 5037P
Solvents
See also diluents, 'diluents, reactive' & individual solvents
abuse, sources/World situation/projects – 3773
adsorption from, alkyds/titanium dioxide – 2017
anticorrosives, overspray/water washing – 5933P
books, interactions/classification/chemistry in/spectral effects etc – 2244
cancers
—lymphomas – 9789
—of livers, women/men – 3769
carbonates (cyclic) – 9019P
carcinogenicity, wood preservatives & – 2068
chlorinated
—EEC directives – 4743
—handling, good practice – 5637
—properties/exposure limits/hazards – 1491
—statistics/degreasing/pollution/regulations – 4625
—strippers, surfactants from polyethers – 9396P
—strippers, thickeners (inorg)/accelerators & – 344P
—wastes, treatment – 9803
—wastes, treatment by organisms – 9822
—wastes, treatment/regulations – 7046
classification, exposure limits etc (Italy) – 7200
cleaning compsns, regulations/emissions/necessity – 4281
colour changes &, acetylenes (difunctional) polymers – 8565
cyclohexanone (substituted) – 2294P
dearomatised, flow control agents & – 493
degreasing, plants, regulations (German) – 4756
determination, paints/FTIR (evolved gas analysis) – 9714
developments – 2291
diffusion
—coatings drying, modelling – 3758
—in polyimides – 6162
—in polymers, Fickian/stress terms – 6126
diffusion (self-), theory/prediction/experimental – 7747
diisopropylnaphthalenes – 5640
emissions
—adhesives – 8255
—containers manufacture/finishing, & reduction – 8724
—degreasing, reduction – 5884
—degreasing/factors – 585
—inks – 4225
—inks drying, incineration/heat recycling – 9804
—lacquers application, control – 8375P
—painting, wood – 2118
—paints films, GC – 9710
—paints/Los Angeles/regulations/plans – 8736
—printing (gravure), control/regulations (US) – 9818
—printing inks, regulations (Swedish) – 7204
—printing, recovery/incineration – 2971
—printing/neuropathy – 7039
—reduction – 584
—reduction, carbon dioxide in spraying – 8337
—reduction, Germany (West) – 8742
—reduction, treatment methods – 5388
—regulations (US) – 7794
—replacement/changes – 7193
—scrubbing, polyethers – 4621
—spraying, scrubbing – 4287P
—treatment, bacteria beds – 2120
—workplaces mapping/presentation – 5392
evaporation
—coatings drying, modelling – 3758
—films/mechanical properties changes – 5307
—loss indication by colour change – 8986P
—rate from binders solutions – 2031
—water &, modelling – 1248
exposure
—artists (graphic), effects – 2967
—brains, blood flow levels – 7021
—carcinogenicity, lymphomas – 567
—formaldehyde & – 6168
—occupational levels, Norway, reduction – 8848
—olfactory function impairment tests – 5377
—painters/neuropathy, re-examination – 560
—sclerosis (multiple) studies – 7762
—sclerosis (multiple), case-referent studies – 4580
—skin, volatiles – 6901
—spraying, cameras (video)/bar graphs – 7783
—visual disorders/neuropathy – 6192
fires
— 2067
—fire-fighting – 7764
for nitrocellulose, diluents/active solvents ratio – 8896
formulation, computers – 2291, 4148

Solvents *(continued)*
GC
— 1990
—detectors, infrared/MS sequential – 8620
glycol ethers, ethylene replacement – 9010
halogenated
—carcinogenicity/risk assessment – 6194
—cleaning with, selection – 6201
—statistics/regulations (development/current activities), USA – 6326
—water pollution, ground water – 6197
hazards
—health/environment – 7016
—paint industry/risks assessment – 7766
hazards/control – 3774
hazards/exposure limits/labelling/fire/precautions – 4808
hazards/regulations (UK) – 2245
hazards/toxicity/uses/properties/safety – 7221
health & safety, data sheets – 2245, 4800
identification, GC/computers – 8624
interactions, with polyesters (cured), NMR – 2871
irritants, skin, testing/prediction – 563
lacquers, miscibility with heptane – 8893
manufacture
—plants (Chinese) – 4712
—plants (planned), Saudi Arabia – 3057
manufacturers, hydro treatment/customer services – 2288
micro-organisms tolerating presence – 5182
monitoring (biological)
— 3663
—expired air sampling – 5284
—exposure estimation (retrospective) – 6936
—variability/physiological modelling – 9768, 9769
—work load effects – 2961
motor industry & – 571
naphtha in, urticaria (contact) – 2074
neuropathy – 8711
neurotoxicity
—dementia, studies – 3779
—epilepsy & – 2091
—foetuses exposure/children from – 6180
—modelling, synaptosome membranes enzymes – 5367
—painters – 2111
—symptoms/Dutch painters etc – 9796
organic
—labelling/brains/EEC – 4741
—properties/action/hazards/safety, books – 4788
paint defects &, reduction – 2467P
paint industry (US) & – 3041
parameters, polarity/acidity etc – 8691
permeability, polymers blends, morphology effects – 8701
polarity, parameters – 2244
polymers in, adsorption from – 1243
polyurethane coatings, propanediols monoethers – 790
primers, siloxanes etc & – 3986P
processes in, models (empirical), review – 49
proprietary
— 670
—for epoxies – 2290
quality assurance – 2205
recovery
—equipment/inks manufacture – 7798
—from air, permeation membranes – 3782
—from paints wastes – 1369
—from wastes, methods/efficiencies – 7797
—plants/corrosion resistance – 4611
—plants/proprietary systems – 9805
—polymerisation processes, computers – 1524
recycling, advantages/equipment (proprietary) – 5385
regulations/effects – 3084, 6357
removal
—electrocoating compsns/distillation – 9232P
—from polymers by carbon dioxide (fluid) – 4092P
—from water, membranes/evaporation – 8726
selection, factors – 1491
stabilisation (steric) &, conformation & – 2941
statistics (French), paints use – 7126
teratogenicity, Finnish studies – 2968
toxicology, livers – 2076
waste, recovery/minimisation, economics – 3877
wastes containing
—exposure/neuropathy – 4592
—printing, regulations/options – 5394
water in
—determination – 9671
—determination, GC/detectors – 2883
—determination, on-line/potentiometry – 1960
water-bornes, surface tension – 4538
water/ammonium/cosolvents, for cellulose – 7993
women (pregnant)
—congenital defects – 1275
—pre-eclampsia/hypertension etc – 6179
Sonneborn & Rieck
expansion plans – 686
Soot
See also carbon black
Sorbents
paints, comparison with carbon – 3736
Sorbitan
alkoxylated, fatty acid esters, inks (water-borne) – 8295P
Sorption
– 2028
carbon dioxide, films expansion – 7738
carbon dioxide/methane, by polymers blends – 6121
South India Viscose Ltd
titanium dioxide, plants (planned) – 4711
Sovin Titantium Industries Ltd
titanium dioxide, joint ventures – 7886
Soyabean Oil
autoxidation, NMR (carbon-13) – 1213
composition, less polar fractions – 6108
degummed, specifications – 8877
drying, viscosity changes/networks formation – 9644
monolinoleins in, oil oxidative stability & – 788
oxidation, variety/temp & – 41
prices, increases/drought – 3135
printing inks
— 3981, 4225
—newsprint – 5059, 7430
statistics – 661
storage/odours, causes – 7985
ultrasonics, velocity – 2926
Soyabeans
proteins, types/cross-linking/testing – 4003
proteins (carboxylated), paper/board coatings – 4393
sampling/fatty acids, seeds still viable – 6902

Space
See also aerospace
adhesives/sealants/coatings – 4796
Spacecraft
adhesives/sealants/coatings, review – 4212
Spalling
concrete (reinforced), pressure required, determination – 9401
Spattering
resistance, emulsion paints – 2307
water-bornes – 6881
Speciality Coatings
conference papers – 4796
manufacture, plants (planned), India – 4725
manufacturers (US), acquisition – 3913
Speciality Products
See also chemicals (speciality), inks (speciality) & resins (speciality)
Specific Gravity
See density
Specific Heat
See heat capacity
Specifications
compilation, specifiers (independent)/obligations/approaches – 9362
US, governmental, paints, summaries collections – 1446
Spectra
See also infrared & ultraviolet spectra
azo compounds, amino groups effects – 1201
disazo pigments, molecular orbital & – 8564
mixtures, individual spectra reconstruction – 4517
Spectrometers
computers
— 1973
—interfacing computers/data stations – 9665
proprietary
—directories – 6102
—exhibitions (US) – 7648
Spectrometry
See also atomic absorption, atomic emission, atomic fluorescence, atomic, ion mobility, X-ray & X-ray fluorescence spectrometry, & opto-thermal transient emission radiometry
analysis, compensation method, computers – 6951
combination, with microscopy, paints – 6113
copper ions, chelates, determination – 3659
databases, survey/construction/spectra evaluation – 6083
ferrous ions
—chelates, determination – 3659
—presence ferric – 6074
interferences, compensation method, computers – 6951
lead (soluble) – 6353
phosphates, as phosphomolybdates ion pair complexes – 8645
plasma (inductively-coupled), drain systems (pumped) – 7693
radiance data, bandpass error correction – 529
reflectance
—diffuse, microanalysis, colourants – 5286
—luminescent materials, D65 illumination – 2805
Spectroscopy
See also electron, electron tunnelling, electron energy loss, fluorescence, glow discharge, infrared, luminescence, Mossbauer, photon correlation & ultraviolet spectroscopy, & electron spectroscopy for chemical analysis
coatings field, review – 7646
computers, software – 7675
correlation-based, noisy spectra/autoconvolution/standard spectra – 6919
data re-use, different slit function corrections – 4514
dichroism, acetylenes (difunctional) polymers – 8565
Hadamard transform
—liquid crystal shutters – 7665
—technology state/uses – 8622
imidazolopyrimidines (methylene) – 7955
photoacoustic
—formaldehyde – 3655
—photo-crosslinking, epoxies – 5281
—TLC plates densitometry by – 2864
plasma (inductively-coupled)
—equipment – 6921
—Fourier transform – 3696
polyether-imides, pressure effects – 2855
reflectance
—derivative, pigments (blue) identification – 2901
—internal, polymers surfaces, orientation at – 2874
siloxanes, silicon/oxygen partial double bonding – 4518
solvents effects
— 2244
—review – 49
visible, books, ultraviolet & – 3094
Specularite
anticorrosives – 7961
Spills
acidic materials, control/clean-up – 590P
industry/government responses etc, USA – 2114
treatment, compsns, absorption/flash point elevation – 1283P
Spin Coating
flow, rotating thin films, theory – 3630
siloxanes – 4413
Spinel Pigments
silicate paints – 223
Spiro Compounds
acetals, printing (ink jet) substrates – 8302P
acrylates, coatings for plastics – 5977P
amines (hindered), synthesis/NMR – 7279
chroman/chroman, synthesis – 2295P
groups, main chain, imides/amic acids – 9177P
indane derivatives, epoxies from – 872P
methylene groups, polymerisation – 1562
naphthoxazines, photochromicity – 4880P
orthocarbonates
—allyl, products, mercaptoalcohols – 6479P
—epoxies curing presence – 6448
—groups (main chain), thioethers/urethanes links – 6478P
—mercaptan groups, derivatives – 6477P
—methylene groups/polymerisation – 5718
—synthesis/polymerisation/expansion – 5716
—thioethers groups – 4943P
—thioethers groups, hydroxylated – 4944P
—thioethers groups, polyurethanes – 5759P
orthoesters
—coatings before epoxies – 1173P
—conductive coatings – 9564P
—fluoroalkyl groups, polyether-esters – 6459P
—fluoroalkyl groups, synthesis – 6458P
—groups, polymers (carboxylated) – 4938P
—groups, polymers (self-crosslinkable) – 4913
—groups, powder coatings – 1686P
—polymers, conductive coatings – 7623P

Spiro Compounds *(continued)*
oxazines, photochromicity – 6614P
phosphites, hydrolysis – 9024
photochemistry, in films (polymer) – 2303
photochromicity, coatings – 9632P
polymerisation, examples – 6425
synthesis, from acrylates/epoxy compounds – 7995
synthesis/polymerisation – 2318
ultraviolet-curables – 5403
unsaturated, copolymers, photochromicity – 7300P
SPL Paints (Ireland)
formation, sales/distribution company – 2194
Spontaneous Ignition
See ignition
Spotting
water, FTIR – 4524
Spray Booths
automobiles painting, legally required, cases – 3076
cabins, ventilation fans failure, hatches difficult opening – 2050
coatings for, paints not adhere/dusts – 8365P
filters, ignition (spontaneous) after use – 5359
overspray
—treatment with amino & styrene/acrylate – 591P
—water washing, detackifiers – 5397P
—water washing, treatment – 2978P
—water washing, treatment/sludges drying – 7054
solvent vapours, analysis, simulation – 9725
stripping paint from walls – 9394P
ventilation, theory/filters cleaning & changing – 315
Spray Guns
containers attached to, quick change – 9386P
developments – 299, 311
electrostatic, nozzles (flat-jet)/flushing electrode – 324
powder coatings – 7509P
proprietary
—details – 7473
—developments & – 7484
—for robots – 4261
Spraying
adhesives, solvents exposure – 2967
aircraft – 9348
airless
—air mantled, construction equipment – 5085
—air-assisted, features/advantages – 4273
—equipment, hose assemblies, standards – 3086
—principles/equipment/problems etc – 7494
—ships – 7494
atomisation (centrifugal), tests – 4277
automation
— 1036, 3443
—reasons/examples – 3434
automobiles
—health & safety – 9761
—workshops/regulations (Norwegian) – 4738
books – 4797
cabins
—for vehicles (motor) – 6631
—regulations (Norwegian) – 4738
carbon dioxide (supercritical)/paints – 8337
central jets/coaxial diluents/surrounding air jets – 9384P
conductive coatings – 1132
dry fog, emulsion paints – 5016P
emissions
—scrubbing – 4287P
—solvent vapours, analysis, simulation – 9725
epoxies, epoxy group contents in aerosols in – 9688
equipment
—adhesives (hot-melt) – 990
—bells, thin film flow, theory – 3630
—cleaning, regulations (Norwegian) – 4738
—components of – 3434
—developments – 1036
—manufacturers (Indian) – 1037
—power equipment guidelines – 7477
—selection/techniques – 8333
—setting-up/operating/maintaining – 8341
—types/advantages – 2627
equipment (proprietary) – 7467
filtration – 1035
hazards
— 7036
—solvents exposure, cameras (video)/bar graphs – 7783
health & safety measures – 5379
high-speed
—coatings (two-component) – 9356
—equipment/use/advantages – 9356
—metallic finishes – 9356
isocyanates (unsatd) copolymers/amines (unsatd) copolymers – 2482P
low-pressure
—high-volume, advantages – 3435
—high-volume, equipment – 7473
—high-volume, principles/advantages etc – 1728
metal coatings, primers, particles/binders – 1141P
metallic finishes
—flakes orientation, impact/drying – 2819
—problems – 3578
methods – 5876
polyurethane foam, isocyanates levels air – 8708
polyurethane-ureas, two nozzles – 8371P
polyurethanes (one-component), with steam – 5123P
polyurethanes (two-component)
— 169P
—prepolymers/catalysts simultaneously – 3456P
polyurethanes (two-pack), hazards/safety – 562
powder coatings
—air drying for – 6623
—booths/spraying/recycling, fluidised hoppers – 9383P
—safety – 7776
regulations (German) – 7036
robots, electronic equipment/textured coatings – 5122
robots (proprietary) – 3443
safety, respiratory protection wearing views – 575
thermal, equipment, mechanical automation, plastics sustrates – 9371P
vehicles (motor), qualification/EEC countries (various) – 8852
water-bornes
—applicable humidity range – 957P
—flow control agents etc – 3149P
—problems/equipment – 4275
Spreading
spreading pressure, polymers/water – 5342
Spreading Rate
See also coverage etc
application at specified, brushes, standards – 7215
determination, standards – 7214

Springs
powder coatings, fluoropolymers – 1678
Sputtering
carbon, plastics pretreatment – 5886P
fluoropolymers, coatings, etching – 9756
Stabilisation
dispersions, grafting on silica – 2263
metal flake pigments (leafing) – 3349P
pigment dispersions – 2937
polyurethanes, water-bornes – 4178P
silicate paints – 222
Stabilisers
against ozone/photolysis products – 55
against transesterification – 4931P
aluminium magnesium compounds – 9042P
benzotriazole, phenols/unsatd groups – 2308P
chemically-bound
—benzophenones – 59P
—polymers with mixed – 8029P
chemistry, review – 3992
dianhydrides/functional stabilisers products – 9045P
diphenylolmethanes (substituted) – 64P
dispersion polymerisation, particulates/organics – 809P
for acrylic/urethanes – 595
for diazoquinonesulphonates/novolacs systems – 3832P
for driers, acids (fugitive) – 68P
for epoxy/polyamides – 9043P
for magnetic pigments – 8981P
for methylene chloride, interference in pollutants studies – 2857
for moisture-curables – 1653P
for polycarbonates oligomers (cyclic) – 7325P
for polyethylene – 9027
for polyolefins, review – 3144
for trichloroethane – 1502P
for trichlorotrifluoroethane/dichloroethylene – 5641P
fugitive, for silicones (unsatd/Si-H) – 6413P
heat-resistant compsns, polyesters (aromatic) & – 4945P
hydrazides, phenylol groups – 873P
lead compounds, manufacture/exposure/monitoring (biological) – 5390
maleates, for polyvinyl chloride – 5732
on pigments etc for polymers – 8983P
orthoesters – 178P
piperidine groups, acetamide (substituted) – 3153P
polymeric, adsorption on particles, thickness – 7702
polyphenylene oxides, for polyesters – 9094P
polyurethane coatings, pot-life – 211P
pressure-sensitive adhesives – 5812
pressure-sensitive adhesives (radiation-curable) – 5469P
ultraviolet-curables, optical fibres – 1330P
Stabilisers, Heat
dianhydrides/functional stabilisers products – 9045P
diphenylolmethanes (substituted) – 64P
glycoluril derivatives – 800P, 803P
hydroxystyrene (substituted) polymers – 60P
piperidine etc groups, glycoluril derivatives – 802P
piperidine groups
—acetamide (substituted) – 3153P
—glycoluril/hexahydrotriazine fused, & derivatives – 801P
polyvinyl chloride, zinc discolouration retardation – 5647
Stabilisers, Light
– 4873
amines (hindered)
—absorbers &, formulation – 2520
—chemically-bound – 8030P
—developments – 7278
—for polyesters (unsatd) – 1063
—losses, stoving/heating/weathering/depth profiles – 8013
—mechanisms – 1506, 6411
—mechanisms/monitoring – 7276
—mechanisms/monitoring etc – 1507
—N-hydroxyl (etherified) – 9033P
—N-hydroxyl, coatings – 9032P
—stoving/weathering losses – 6408
benzimidazolecarboxylic amides – 3148P
benzodioxanes, for dyes etc – 3155P
chemically-bound
—from amines (hindered) peroxides initiators – 794
—maleic copolymers, hydroxyphenylbenzotriazole – 3157P
—microparticles, polymers (star) – 5000P
—phthalocyanines with – 4827P
—piperidine-substituted imides – 4879P
coatings, for plastics, amines (hindered) – 1121P
developments, review – 7278
dianhydrides/functional stabilisers products – 9045P
diphenylolmethanes (substituted) – 64P
for acrylic/urethanes – 1055
for polyvinyl chloride – 6699
glycoluril derivatives – 800P, 803P
heterocyclics, for cellulose diacetate – 8178P
imidazoles, amide groups – 3148P
microparticles, polymers (star) & – 5000P
oxamides, piperidine/oxanilide groups – 1504
piperidine etc groups, glycoluril derivatives – 802P
piperidine groups
—acetamide (substituted) – 3153P
—glycoluril/hexahydrotriazine fused, & derivatives – 801P
—hindered, diesters/high MW both with – 2309P
polyamides, from oxalic, piperidine compounds & – 7284P
review – 8416
synergism, with antioxidants, mechanisms/review – 5648
testing (accelerated) – 5909
ultraviolet-curables, hydrogen evolution – 7076
Stabilisers, Ultraviolet
chemically-bound
—acrylics/piperidine groups – 4876P
—benzotriazole, phenols groups – 56
—mixed stabilisers groups – 8029P
chemistry, review – 3992
cyclohexenone derivatives, amino groups – 793
diffusion, in polymers, microscopy in ultraviolet – 9732
from phenols from phenols synthesis wastes – 2979P
oxanilides, ultraviolet-curables – 9887P
ozone etc &, reaction/photostabilisation loss – 55
polymers/pigments systems – 4299
types/mechanisms – 4870
Stability
See also light stability, thermal stability & lightfastness

Stability *(continued)*
emulsions (oil-in-water) – 2905
Staging
See also scaffolding
Staining
by rust, agents against, coatings – 8395
clothing, artists water colours not – 8545P
from substrates, walls coatings, prevention – 476P
paper, printing inks, reduction – 9300P
resistance
—acrylics, alpha-halo, pendent phenylhexaisopropyl – 9124P
—borosiloxanes/ladder siloxanes – 4448P
—coatings – 2771P, 3355P
—coatings, cross-linking agents – 8492P
—coatings, exposed to rain etc – 9480P
—coatings, lasers treatment – 1752P
—coatings, organo-tins – 6744P
—coatings, vinyl ethers (difunctional) – 1146P
—coatings/wear layers – 1138P
—epoxy/polyesters & isocyanates – 6841P
—fluoropolymers etc – 9506P
—formulation – 2809
—phosphoric acids/amines systems – 2712P
—plasma treatment of coatings – 1753P
—polishes – 6622P
—powder coatings – 5799P
—topcoats, for wallcoverings – 6001P
—ultraviolet-curables – 7829P
—wood coatings – 8909
Stainless Steel
anticorrosives, acrylics (fluorinated) – 4347P
chromating, immersion/electrolysis/treatment steps – 8366P
coatings, without pretreatment – 5177P
cooling systems, corrosion/repair, epoxies – 2689
corrosion (pitting), micro-organisms & – 9416
electroplating, zinc/nickel, before chromating – 1754P
fingerprints resistance – 4347P
flakes, anticorrosives – 4342P
pigments, weldable coatings on steel (metal-coated) – 404P
powders
—coatings for stainless steel – 1801P
—weldable coatings – 5934P
—weldable coatings, corrosion resistance – 2711P
—zinc dust paints, aluminium powders & – 2680
scale removal, acidic solutions – 6667P
transparent coatings, fluoropolymers (hydroxylated)/ultraviolet absorbers etc – 5177P
transparent coatings for – 4331P
water-bornes, silanes/silica etc – 955P
weldable coatings, primers/coatings – 1801P
Stains
See also wood stains
Stamps
hand stamps, historic, inks analysis – 5296
postage, adhesives, FTIR – 3690
Stand Oils
systems containing, rheometers (rotary) – 4460
Standards
BSI, catalogues – 4790
DIN, corrosion/climate – 4784
European, DIN/ISO/CEN, interviews – 4786
foreign trade effects/European harmonisation – 10000
French, paints – 6337
German, paints – 6361, 6362, 6363
Italian, adhesives/paints, lists – 9992
UK, Consumer Protection Act &, lists – 4770
UK etc, health & safety relevant, lists – 9998
US, governmental, paints specifications, summaries collections – 1446
Stannic Compounds
See also tin & organo-tin
catalysts, epoxies curing – 7317
Starch
adhesives (water-borne), latices & – 6590P
amylose, detection in adhesives – 1400
from potatoes, adhesives – 5817
graft copolymers, synthesis/biodegradation – 8448
modified
— 72
—powders, water absorption – 8550P
paper coatings
—& modification – 4394
—water resistance – 4396
properties/modification/optimum – 4394
Starch Derivatives
paper coatings – 4394
Static Electricity
drums, filling, incidents/guidelines/types – 2057
drums (plastic), flammable liquids – 2106
explosions – 7026
powders, hazards/measures, books – 3097
Statistics
alternatives to, quantile/quantile plots – 3680
analysis, methods – 1975
correlation coefficients – 1988
linear regression, computers/spreadsheets – 5570
linearity/non-linearity of plots, testing – 1988
multivariate calibration, partial least squares method – 3681
plants monitoring, autocovariance analysis – 3694
process control
— 9332
—colour – 8572
—film thickness/microprocessors/computers – 6976
—inks manufacturers – 6281, 9290
—principles – 3052
—principles/charts types etc – 2046
—principles/painting – 4544
—quality process commitment – 7708
—simplification – 4698
quality control, sampling/testing errors – 1252
UK, collection, changes – 9919
Statues
restoration, cyanoacrylates/siloxanes/microspheres – 5232P
Steam
curing by, temporary intervening layers – 6662P
spraying, polyurethanes (one-component) & – 5123P
Stearates
TLV, ACGIH documentation – 7044
Stearic Acid
chlorination – 789
treatment with, nacreous pigments – 3121P
Steel
See also bridges, buildings, cabinets, chimneys, doors, drums, furniture, piles, pipes, reinforcing elements, tapes, tubes, wires, galvanised steel, low-alloy steel, stainless steel, tin-free steel & 'steel, structural'
alloys, with chromium, powder coatings – 262P

Steel *(continued)*
aluminium-coated
—anticorrosives, epoxies, weldability – 8540P
—chromating/epoxies – 6752P
cadmium-coated, storage/weathering before painting – 1284
chromium
—passivation, Cr/Mo enrichment – 7474
—passivation, growth kinetics/film thickness – 7475
cladding/control – 6720
coated
—automobiles, use/future – 5153
—domestic appliances, advantages etc/use – 3568
—electrochemical measurements, at defects – 351·
—epoxies – 8442P
—epoxy/polyesters & isocyanates (blocked) – 6841P
—forming, polyesters/methylolated – 9504P
—grafting on, electron beams/inhibition avoidance – 338P
—manufacturers (UK)/quality control – 8334
—stoving finishes, aluminosilicates – 1152P
contaminants, salts (soluble), detection – 7923
interactions, with coupling agents, mercaptoacetate groups – 5650
metal-coated
— 5898
—chromating & acrylics/silica – 4345P
—one side, removal thin coating from other – 8444P
—powder coatings – 260P
nickel-coated
—chromating, by electrolysis – 4291P
—chromating/coatings, polymers/silica – 5939P
—coatings/stress corrosion cracking resistance – 2681
—pretreatment/heat-resistant coatings – 4291P
—ultraviolet-curables, infrared first – 5424
oxides layers, formic acid reaction – 1764
oxygen reduction, products, alkaline media – 394
painting, weather &, guidelines – 2633
pretreatment – 1725
reaction, with formic acid, products – 1764
rolled
—pretreatment, descaling/cooling/residual heat tempering – 9387P
—surfaces, characteristics/painting – 7493
sheet, corrosion/control – 6720
treatment, with plasma, polymers – 1890
zinc-coated
—adhesives/substrate types/durability – 2569
—anticorrosive primers (water-borne) – 1090P
—anticorrosives, epoxies, weldability – 8540P
—anticorrosives, epoxies/phosphomolybdates – 3495P
—anticorrosives, water-bornes on chromium hydroxide – 397P
—anticorrosives, weldability/non-conductive powders – 9493P
—chromate coatings/coatings, Tg/silica – 3496P
—chromate coatings/powder coatings – 3447
—chromating & acrylics/silica – 4345P
—chromating before powder coatings – 2637
—chromating/epoxies – 6752P
—chromium oxide etc electrodeposition, paintability – 1043P
—coatings layers on adhesives on – 6751P
—coatings, epoxies/silica – 8440P
—coatings, epoxy/polyesters (modified) etc – 8443P
—coatings, paints/corrosion propagation – 390
—coatings, polymers/silica – 8440P
—coatings/adhesion/immersion/SEM etc – 5269
—coatings/adhesion/SEM etc – 5274
—conductive coatings, copolymers/chromates etc – 1082P
—conversion coatings, ammonium molybdate – 5925
—corrosion (marine)/salt spray tests – 8380
—durability/case histories – 2675
—electrocoating (cathodic), cathode temp/fluctuations – 6974
—electrocoating, cratering avoidance – 241P
—electrocoating, weathering/disbonding (various points) – 5159
—electrocoating, weathering/disbonding/osmosis – 5160
—one side, removal – 8444P
—oxide etc-modified, coatings over – 7560P
—phosphating – 336P, 337P
—phosphating, adhesion (wet), Ni/Mn levels – 4282
—phosphating, zinc phosphate – 2686
—phosphating, zinc phosphate/nickel ions, conditioners – 4284P
—powder coatings/corrosion resistance/defects – 6725
—pretreatment, electrolysis chromium – 4286P
—primers (water-borne) – 408P
—properties/electrocoating – 6703
—rebars, pretreatment before zinc – 9387P
—treatment, chromium(VI)/polymers (water-sol etc) – 401P
—two layers alloys, phosphatability/corrosion resistance – 5174P
—types/corrosion resistance/paintability etc – 5928
—types/paints/corrosion resistance – 8402
—types/properties etc – 6733
—welding, improvements/phosphides – 6019P
—zinc dust paints (modified) – 2680
—Zn alloys, coatings/corrosion – 5920
—Zn alloys, developments/corrosion resistance – 6739
—Zn alloys, electrocoating, weathering/osmosis – 5160
—Zn alloys, oxide etc-modified, coatings over – 7560P
—Zn alloys, phosphating/coupling agents etc – 2645P
—Zn alloys, pretreatment/adhesion – 2645P
—Zn alloys, properties/electrocoating – 6703
—Zn/Co then Zn/Ni then coatings – 398P
—Zn/Fe alloys, anticorrosives – 1089P
—Zn/Fe alloys, corrosion resistance – 8402
—Zn/Fe alloys, epoxies over – 1803P
—Zn/Fe alloys, zinc/epoxy/chromates paints – 4349P
—Zn/Ni alloys, chromating/silicate paints – 4327
—Zn/Ni alloys, phosphating/adhesion (wet) – 4269
zinc-coating, chromating, Zn/nobler deposition on Zn before – 4290P

Steel, Structural
See also maintenance painting & steel
anticorrosives, paints comparison – 4307
coatings, behaviour – 356

Steel, Structural *(continued)*
fire resistance
—books/proprietary products – 4789
—concrete (vermiculite) – 4378
friction between faces, zinc dust paints – 2709P
intumescent coatings
— 3550
—performance, factors/testing – 3547
painting, standards relevant to – 4306
pretreatment – 307
protection, materials, fire tests – 4785
roughness – 307
Steric Stabilisation
acrylics, by butadiene polymers – 224P
by tragacanth gum, pH effects – 3762
colloids
—& stabilisers design/synthesis – 3191
—interactions/square well potentials – 7715
—polymers, inks – 8291
dispersants, epoxy silanes/amines products – 8026P
grafting, conformation/solvent quality effects – 2941
latices, polyelectrolytes/depletion layers/flocculation & – 2932
Sterilisation
biocidal ions, from coatings – 9530P
resistance
—adhesives/gamma-rays – 5415
—epoxy/phenolics – 2402
—printing of metals – 4233P
Sterling Roncraft
market share, UK – 9954
Steroids
derivatives, photosensitisers – 2165P
Stilbazolium Compounds
aggregates, on polyelectrolytes, micellar structures – 5339
Stilbene
See also diphenylethylenes
derivatives, optical brighteners, adhesives – 981P
fungicides, substituents/structure/activity – 8452
groups, liquid crystals, polymers with – 7361
polymerisation presence, initiators end groups & – 3653
substituted, photochemistry, microemulsions/isomerisation – 5323
synthesis, from styrene, by arylation – 2286
Stilbenedicarboxylic Acids
polyesters – 9105P
Stolllack AG
financial performance – 9928
Stone
algae from, isolates, algicides testing against – 1097
biocides, types/performance etc – 3520
coatings, weather resistance, fluoropolymers – 1788P
coatings/impregnation – 5990
conservation
—linseed oil etc, against lichens etc – 2735P
—polymers, micro-organisms & – 3521
degradation, air pollutants – 7057
exterior, cleaning, methods comparison – 9364
impregnation/silicate paints – 363
protection, against air pollutants – 6673P
repair, water-bornes, polyvinyl acetate/silanes – 8288P
treatment
—cleaning/honing etc/moisture-curables – 6673P
—fluoropolymers – 8412
Storage
acrylic acid, dimerisation – 6207
aluminium substrates, between treatment/weathering – 1284
azomethine compounds, air displacement – 2583P
brushes, used, sachets – 330P, 331P
fusion-bonded coatings, powders ageing, suitability after – 8231
hazardous materials, regulations (German) – 9983
liquids (flammable), & combustible, US codes – 4628, 5398
petroleum gas (liquefied), guidance – 7025
plastics, after plasma treatment – 2925
powders, segregation problems – 8749
soyabean oil, odours & – 7985
sulphuric acid, expert systems – 9794
wood (treated), fungal colonisation – 2727
Storage Stability
acrylics/silyl groups, oxazolines & – 5847P
adhesives (anaerobic) – 2586P, 8286P
adhesives (cyanoacrylate) – 5052P
adhesives (epoxy) – 2581P
alkyds – 127P
coatings
—polymers/silyl groups/ketals – 1654P
—silyl groups – 5775P
coatings (one-pack), xylylene diisocyanate derivatives – 1652P
curing agents, for epoxies – 4942P
diphenylmethane diisocyanates prepolymers – 1620P
dispersions, polymerisation for, dispersants (polymeric, reactive) – 9207P
dispersions (aq) – 6552P
emulsion paints – 6570P
emulsions, polyurethanes – 5789P
epoxies – 1570P, 8100P
heat-curables
—epoxies/polymers – 4063P
—imides (unsatd) etc/stabilisers – 5753P
isocyanates (blocked) – 1607
isocyanates (blocked)/polyethers (amino-terminated) – 4116P
moisture-curables
—acid chlorides – 1621P
—siloxanes/catalysts etc – 5004P
NADs, dispersants (polymeric)/silyl groups – 9209P
nitrocellulose & – 1471P
photopolymerisable compsns, photoinitiators – 8780P
photopolymerisables, acridines (substituted) – 3830P
photoresists, novolacs/diazonaphthoquinonesulphonates – 9878P
polyamic acids solutions – 178P
polyisocyanates, allophanates groups – 1616P
polymers/silyl groups/catalysts/acetals – 9175P
polyurethane coatings (thermosetting) – 911P
polyurethane coatings (two-component) – 6801P
silicones (unsatd)/silicones (Si-H), stabilisers – 6413P
thixotropic compsns, polyurethanes etc – 8535P
ultraviolet-curables
—determination, DSC – 5333
—siloxanes (unsatd)/mercaptans/stabilisers – 3006P
urethanes (unsatd) copolymers – 9143P

Storage Stability *(continued)*
water-bornes
—matting agents hydrophilicity – 69P
—phosphogypsum etc – 5022P
—saponification resistance – 218
zinc dust paints
—developments – 2683
—zinc chloride – 1794P
Stoving
See also overstoving
blistering, substrates emissions – 6789
coatings, testing, ovens (gradient) – 7711
electrocoating, edges thinning avoidance – 9235P
emissions
—borosiloxanes coatings without – 2751P
—borosiloxanes coatings without harmful – 2750P
—composition – 7804
—volatile organic content & – 580
infrared (far)/hot air, both – 6675P
odours, masking – 4193P
powder coatings
—lower temp – 254
—mass loss determination – 4779
stabilisers (light), losses – 6408, 8013
water-bornes, blistering – 2539
Stoving Finishes
acrylics/silyl groups/hydrolysis catalysts – 9205P
aluminosilicates – 1152P
barium sulphate (precipitated) – 4814
catalysts, & effects on coatings – 3335
epoxies – 880P
epoxies (modified) – 2435P
epoxy/phenolics
—from epoxies (modified) – 2402
—polyolefins & – 8500P
high-solids
—epoxies/curing agents (latent) – 207
—polyesters, MWD (narrower)/residuals avoidance – 2415
melamine resins (modified), emissions (reduced) – 8191
NMR (carbon-13) – 2873
stripping, compsns – 6676
Stoving Ovens
developments – 7900
electric, infrared v convection – 5083
exit gases, paints aerosols – 9807
Strainers
See filters
Strains
diffusion &, penetrants/polymers – 4555, 4565
Streaking
high-solids coatings, flooding &, factors – 2523
Stress Corrosion Cracking
coatings/nickel plating against, vanadium pentoxide – 2681
Stresses
See also internal stresses & yield stresses
adhesives (structural), calculation – 8252
coatings, development in solvents removal – 5307
cyclic, crack resistance testing – 2687
diffusion &
— 6126
—penetrants/polymers – 4554
effects mitigation, pigments (polymeric) – 952P
photodegradation & – 4314
relaxation, epoxies (cured), ageing & – 1899
residual, epoxies, reduction – 6448
Strippable Coatings
See also temporary protection
antimicrobial activity – 4333P, 4334P
for fans/electrical equipment etc – 6026P
nuclear installations, instruments – 1147P
optical properties, transmittance control – 8575P
radiation-curables
—floors, removal aq alkalis – 3862P
—siloxanes/onium salts – 9885P
solder mask coatings – 8794P
waxes (oxidised)/waxes (microcrystalline) etc – 1087P
Strippers
for photoresists, GC/detectors – 8620
Stripping
coatings
—from electronic equipment – 1136
—from silicon, by gases (activated) – 9395P
hangers, nitrogen (liquid) – 5130
hangers (etc), fluidised beds/pyrolysis products combustion – 5893
lead-containing paints
—bridges, problems/measures – 3439
—dusts/houses – 2976
optical fibres (coated) – 3458P
paints, splashes etc removal – 2651P
photoresists, triamines/solvents – 9856P
pipeline coatings, bristles (carbide-tipped) – 6678
pressure-sensitive adhesives, after ultraviolet – 6598P
release coatings, lasers decomposition then – 5895P
resistance, bituminous compsns – 933P
resists – 345P
shingles (wooden) – 314
Strips
See also coil coatings
coating, both sides – 8367P
galvanised steel, buildings uses – 3573
painting (vacuum), chambers – 9388P
steel, buildings uses – 3573
steel (coated), buildings uses – 3573
steel (metal-coated), chromating/acrylics – 4345P
steel (zinc-coated), Zn alloys – 6739
Strontium Carbonate
anticorrosive pigments, phosphates (monobasic) & – 8984P
Strontium Chromate
carcinogenicity, review – 9762
manufacture, monitoring (biological) – 8733
primers, replacement – 4353P
replacement, partial, aluminium tripolyphosphate (modified) – 3108
standards – 4775
Strontium Hydrogen Phosphate
anticorrosive pigments, carbonates & – 8984P
Strontium Oxide
curing accelerators – 197P
Styrene
arylation, by iodonium – 2286
bacteria tolerating presence – 5182
biological exposure limits – 2977
bis(vinylphenyl) ethers, photopolymerisation – 1292
blends, with toluene, toxicity – 553
block copolymers
—adhesives – 2587P
—adhesives (hot-melt) – 1698P
—adsorption, NMR (deuterium) – 6966
—grafting, primers – 469P
—olefins polymers mid-blocks – 5936P

Styrene *(continued)*
—plants/joint ventures – 3910
block copolymers (star), hydrogenation/sulphonation – 2380
bromination, addition to double bonds, agents – 2279
copolymerisation
—with dimethacrylates, kinetics – 833
—with methylstyrene, modelling – 830
—with sulphur dioxide, redox systems – 9063
cyano groups, synthesis/polymerisation – 4101
derivatives, products with anhydrides/epoxy compounds – 142P, 143P
distillation residues, copolymers, plasticisers for – 9009
effluents, treatment, micro-organisms – 3781
electropolymerisation, vinyl acetate & – 5696
emissions, regulations (UK) – 4760
emulsion polymerisation
—acrylates &, kinetics/modelling – 4917
—butadiene &, presence seeds – 4898
—chain transfer agents – 90
—chain transfer agents/radical entry particles – 1551
—comonomers/modelling – 1548
—electrolytes effects, & comonomers – 8067
—in gel-like emulsions – 93
—surfactants (polymeric) – 3183
—surfactants/steric effects – 5661
—theory/experiments – 4016
emulsion polymerisation (emulsifier-free) – 5686
exposure
—below TLV, symptoms – 9760
—cytogenic/haematological studies – 7020
—hearing thresholds & – 4597
—plastics (reinforced) &, women (pregnant) – 4593
—reproductive systems – 9793
grafting
—on cyclohexanone resins – 6431
—on siloxanes/unsatd silanes products – 920
halogenated, copolymers, resists – 3824P
interpenetrating networks, phase separation – 2358
miniemulsions, transport between these/others – 4562
monitoring (biological)
— 3663
—ethanol interferences – 4570
—physiological modelling – 9768, 9769
—review – 1944
neurotoxicity, exposure (long-term)/astroglial reactions – 7774
photopolymerisation
—fumarates &, reactivity ratios – 7068
—kinetics – 2999
—kinetics/lasers (pulsed) – 9842
polymerisation
—end groups, & adjacent stilbene-derived units – 3653
—in region bilayers on oxides – 2255
—in siloxanes (cross-linked) – 186
—initiators (polyfunctional), kinetics – 4899
—microemulsions, comonomers stabilisers – 8048
—MW/conversion curves, theory – 92
—peroxides, amino/azo groups – 8050
—sulphonium salts, tetrahydrothiophene-based – 5679
—trimethylsilyl trifluoromethanesulphonate – 4030
polymerisation (anionic)
— 3189
—continuous processes – 4032
—stereochemistry – 2328
polymerisation (cationic)
—review – 2377
—termination, trifluoroacetates – 3211
polymerisation (thermal), inhibitors – 1539
products, with methylenebis(alkyl carbonates) – 168P
reactivity ratios, initiators concentration & – 2404
replacement, methylstyrene – 7158
residual
—determination, chromatography (precipitation) – 2003
—polyesters (unsatd) curing – 1563
silyl groups, pentamethyldisilyl, polymers/copolymers/NMR – 9173
specifications – 8906
statistics (US), exports – 3043
substituted
—block copolymers, grafting – 4895
—polymerisation (cationic), review – 2377
—silyl groups, polymers from telomers (living) – 4165P, 4166P
suspension polymerisation, review – 2363
synthesis, capacity expansions – 5545
toxicity, neuritis (retrobulbar) – 2100
toxicology, mice/foetuses/metabolites, autoradiography – 7763

Styrene Copolymers
blends, with polyvinyl methyl ether – 540
composition
—by TLC – 6107
—NMR (Fourier transform) – 3704
HPLC (gradient), composition separation – 9679
latices (core/shell) – 1839P
of fumarates, coatings – 5938P
of methyl acrylate, composition distributions – 1567
of pentadiene, synthesis, hydroperoxides – 5683
organo-silicon groups (unsatd), resists – 5477P
painting – 4264

Styrene Oxide
synthesis, catalysts presence latices – 8000

Styrene Polymers
blends, with acrylics – 8498P
DSC, copolymers/statistical/block homopolymers – 8062
fluorinated
—photo-crosslinking – 8806P
—silyl groups – 1878P
hydrogenated, pressure-sensitive adhesives – 9280P
miscibility, with acrylics – 4483
sulphonated, alkylbenzene terminal groups – 7363P
vinylidene groups, grafting – 1550P

Styrene Sulphide
electropolymerisation, anodes/cathodes – 7356

Styrene/Acrylonitrile Copolymers
GPC, detectors (multiple) – 1940
pyrolysis/GC, combination with GPC – 7658
synthesis
—continuous processes, modelling – 3200
—presence polyether-amines, polyols from – 3298P
—viscosity during – 6859
viscosity (intrinsic) – 1901

Styrene/Butadiene Block Copolymers
adhesives (radiation-curable), polythiols & – 8767P
epoxidised, synthesis, degradation presence phthalic – 3232
interpenetrating networks (semi-) morphology/mechanical properties – 3187
photo-oxidation, mechanisms/stabilisers – 7276
Styrene/Butadiene Copolymers
adhesives, azomethine compounds & – 8276P
adhesives (water-borne), EDTA etc & – 5828P
anthraquinone dyes &, fading (accelerated) – 491
autophoretic coatings, carboxylic acids & – 9218
blends, with nitrile rubber, hydrogen bonds – 7640
carboxylated, silica/calcium oxide/fly ashes etc & – 1716P
copying materials (pressure-sensitive) – 2599P
curing agents, mixing/curing, MW/length between links – 8071
emulsion paints
— 8224P
—for plywood grooves – 239P
hydrogenation, catalysts/bulk – 5680
modified
—water-bornes – 5006
—water-bornes/primer sealers – 5012
NMR (carbon-13), signal assignment/structure – 7685
paper coatings
—casein/additives & – 7595P
—matching requirements – 4401
—ultraviolet spectroscopy – 6080
—water resistance/interactions – 4397
pressure-sensitive adhesives – 8250
pyrolysis/GC – 8612
silica &, coupling agents – 6372
synthesis
—chain transfer agents addition – 9072
—emulsion polymerisation/surfactants (non-ionic) – 4033
—wastes, coatings from rosin & – 7796
Styrene/Butadiene Rubber
adhesives (hot-melt), polycarbonates etc & – 9257P
paper coatings, printability – 4392
Styrene/Butyl Acrylate Copolymers
synthesis, presence ionogenic monomers – 104
Styrene/Butyl Methacrylate Copolymers
composition, GPC/chromatography combinations – 3662
viscosity (intrinsic), temp/minima – 4470
Styrene/Divinylbenzene Copolymers
particle size – 2355
synthesis
—diluents effects, porosity/swelling – 8688
—networks formation/cross-linking etc – 831
Styrene/Maleic Anhydride Copolymers
printing inks (water-borne) – 8294P
products
—with acrylates (hydroxylated) – 4652P
—with caprolactone derivatives – 4653P
synthesis
—chain transfer agents as accelerators – 3224
—initiators, mercaptans – 3236
Styrene/Methyl Methacrylate Copolymers
chromatography, MW/composition – 9699
composition, HPLC (reverse phase), fractions & – 6941
hydroxylated, dispersants (polymeric) – 1861P
synthesis
—chain transfer agents/kinetics – 4044
—emulsion polymerisation – 1547
—kinetics – 9083
—kinetics/propagation rates – 7306
—particle formation locus – 116
—photopolymerisation, kinetics – 9843
—presence mercaptans, penultimate unit effects – 5673
Styrenesulphonates
of oximes, polymers, photosensitivity – 3812
Styrenesulphonic Acids
copolymers, with maleic, dispersants – 4878P
polymers
—copying materials (pressure-sensitive) – 2599P
—salicylic acid polymer suspensions – 1123P
Styrylpyridines
diamines, products anhydrides/acid chlorides – 9132
Styrylpyridinium Groups
polyvinyl alcohol, photo-crosslinking – 2986
Suberic Acid
products, with Vernonia oils, elastomers (toughened) – 8997
Submarines
drag-reducing coatings, reduced audio noise – 4445P
Substrates
See also porous substrates & transparent substrates
contaminants on
—coatings over – 353
—detection, methods – 2639
effects, on coatings – 7487
grafting to, radiation curing – 8754
heat-sensitive materials, stoving (lower-temp) – 254
hot
—coatings, zinc dusts/waxes – 395P
—painting, vapours emissions caused by – 2944
inorganic, cracks detection by primers – 1862P
interactions, with coatings, FTIR (photoacoustic) – 9720
oils on, adhesives tolerant to – 126P, 989, 2588P, 3393P, 3394P, 4214
pre-stretched, stresses (internal) – 7479
primers diffusing into – 478P
reaction, with coatings, reactive sites – 1113
reactivity with, acrylamido acetal polymers – 2456
silyl groups interactions with – 1878P
thin, adhesives/stresses relaxation – 3848P
tolerant coatings
— 3486P
—alkyds/sulphonates – 2677
—mastics – 3462
vertical, spraying, moisture-curables/steam – 5123P
wet
—adhesives (water-borne), permeability – 5822P
—coatings, epoxies/curing agents – 6836P
—coatings, tanks/gases (liquefied) – 9382P
—polyurethanes (two-component) – 169P
—primers tolerant to – 300
—tolerance to – 6646
—underground, cementitious coatings, resins/cement powders – 5249P
Succinates
hydroxylated, products with epoxies – 2402
substituted, emulsifiers – 9039P

Succinic Acid
alkenyl, monoesters, allyl groups, surfactants – 9037P
substituted, half-esters, curing accelerators – 7395P
Succinic Anhydride
alkenyl, synthesis presence polymers – 4863P
ethylene/propylene copolymers (modified) – 5682
Succinimide
groups, polymers, photoresists – 9867P
Sucrose
polyesters, polyester-urethanes from – 6844P
Sugars
barrier coatings, polymers & – 9593P
derivatives, pentenyl, reactions – 8173
production, wastes, pigments (black) – 4836P
Sulphate Process
acid concentration/recycling, evaporate/trioxide add – 6381P
black liquor treatment – 15P
ferrous sulphate, crystallisation, vacuum/other – 3963
filtration – 7248P
plants expansion/wastes recycling – 7895
sulphuric acid for – 4823P
wastes
—titanium feed from waste acids – 3107
—treatment – 7061P, 7062P
Sulphates
determination, in water/soil/concrete – 4531
organic
—inks (erasable) – 1012P
—salts, powders, polymers & – 2429P
wastes, treatment with calcium oxide – 7061P, 7062P
Sulphides
concrete degradation & – 389
silyl groups, photopolymerisation, telechelic products – 4140P
Sulphimides
anaerobic compsns – 9088
Sulphites
gels, melamine resins/aldehydes etc & – 1629P
Sulphonamides
carboxylated, corrosion inhibitors – 3499P
coatings, polymers (hydroxylic)/amino resins & – 9497P
condensates, with aldehydes/acids, coatings – 4201P
groups
—epoxy siloxanes – 8108P
—main chain, polymers (sulphonated) – 9138P
Sulphonates
amino groups, products with polyepichlorohydrin – 9179P
anticorrosives
—diacids (derivatives) & – 5164P
—fatty acid esters/lecithin/oils & – 9495P
anticorrosives (high-solids), alkyds & – 2677
anticorrosives (thermosetting) – 5170P
carboxylated, esters, curing accelerators – 7395P
flame retardants, for polycarbonates, mechanisms – 1829
groups, ionomers, review – 913
HPLC (reverse phase), gradient (thermal)/detectors – 4481
non-stick coatings, for plastics – 9579P
paper coatings, salicylic acid polymers suspensions – 1123P
pigments compsns, dispersibility – 2268P
powders, polymers &, self-emulsification – 2429P
pretreatment, of metals before phosphating – 1044P
surfactants, water-bornes/adhesion – 8607
synthesis, from sultones – 7348P
unsaturated, emulsion polymerisation presence – 104
Sulphonic Acids
conductive coatings, for polymers particles – 2613P
fluorinated
—amino groups, paint strippers, salts & – 1758P
—coatings, siloxanes/acids & – 9585P
—polyether-ketones synthesis presence – 9106P
products, with aminoalcohols, catalysts (latent) – 6468P
unsaturated
—copolymerisation, latices stability – 6446
—from acrylic acid/hydroxy sulphonics – 5644P
—surfactants, polymerisation – 2546
Sulphonium Groups
electrocoating (cathodic) – 246P
Sulphonium Salts
acid-labile, synthesis/initiators – 7085P
curing agents, for epoxies, naphthylmethylsulphonium – 881P
photoinitiators, oxygen/solvents effects – 1291
synthesis, from diphenyl sulphide – 601
tetrahydrothiophene-based, initiators – 5679
zwitterions, from tetrahydrothiophene, & polymerisation (ring-opening) – 7358
Sulphosuccinates
amides (mono-), polymerisation presence – 1717P
pigments compsns, dispersibility – 2268P
unsaturated
—surfactants – 805P
—surfactants (reactive) – 811P
Sulphoxides
solvent blends, bases, water/alcohols & – 3142P
Sulphur
determination – 7652
epoxies &, reaction/curing in basic – 917
stabilisers, polymers transesterification resistance – 4931P
Sulphur Dioxide
absorption, steel/wet blasting & – 2695
air pollution
—building materials & – 7057
—corrosion/salts (residual) – 4312
—levels, limit values, EEC – 6332
copolymerisation
—with acrylates/electron donors monomers – 6524
—with styrene, redox systems – 9063
corrosion
—galvanised steel & – 1057
—iron/test chambers – 383, 385
—zinc/test chambers – 384
detection, Raman spectroscopy – 3639
determination, in air, sampling &, low levels – 4508
emissions
—atmospheric levels limits – 4758
—control – 4794
emulsion paints
—acid-solubles loss – 4326
—carbonates loss – 9723
monitoring, lead dioxide plates – 1417
oxidation, presence carbon black/solar etc – 4525
pollution, UK – 4689
resistance, carbonates substrates/coatings – 3457P

Sulphur Dioxide *(continued)*
salt spray tests – 1416
scrubbers, corrosion, expert systems – 1772
weathering (accelerated), primers – 6705
Sulphur Trioxide
products, with castor oil (epoxidised) – 8023P
reaction, with phosphazenes – 4123
Sulphuric Acid
coatings against, polymers (fluorinated) blends – 6753P
metal sulphates in, removal/acids concentration – 4823P
recycling, titanium dioxide manufacture – 9808
resistance, anticorrosives, phenolics, water effects – 1053
synthesis
—plants, corrosion – 5135
—plants/corrosion control – 8417
transport/storage/handling, expert systems – 9794
wastes, sulphates &, treatment – 7061P, 7062P
Sulphurous Acid
wood (coated) &, sulphur compounds at interfaces – 4325
Sultones
products, with polybenzimidazoles – 7348P
Summit Chemicals
liquidation – 2194
Sun Chemical Corp
acquisitions by, of Prisma – 7842
Sunflower Oil
alkyds, formulation/uses etc – 4060
composition, less polar fractions – 6108
heated, products – 7256
statistics – 661
ultrasonics, velocity – 2926
Sunlight
See light (sun)
Supercritical Fluids
carbon dioxide, spraying paints with – 8337
chromatography with
—advantages/equipment/future – 4526
—book chapters – 3099
—combination with FTIR – 7651
—detectors (photoionisation) – 6917
—detectors, FTIR – 3643
—directories – 5297
—FTIR &, samples extraction – 4479
—GC same column/temporal – 5290
—injection/extraction/detectors – 5303
—MS &, waxes – 4497
—MW separation – 7662
—uses/combined techniques, review – 3648
diffusion coefficients in – 4545
extraction by, solvents removal by – 4092P
purification by
—isocyanates (free) removal – 9164P
—vinylpyridine copolymers – 2481P
separation processes, review – 7676
Surface Area
determination
—adsorption equations, statistical mechanics – 9736
—adsorption, nitrogen replacements – 3719
—adsorption/acoustic waves (surface) – 1244
—butylbenzene adsorption – 8684
—dusts – 4564
—powders/permeametric methods – 8656
particles (coated), GC (inverse) – 1945
Surface Free Energy
determination
—high energy, contact angles (three phase) – 5322
—liquids for, surface tension components – 4549
—polymers – 2917
—polymers/liquids, contact angles/non-linear programming – 2912
polymers adsorption/surfaces nature – 538
polymers/liquids, contact angles & – 1241
wetting – 7297
Surface Profile
blast cleaning, coatings/corrosion resistance – 7491
definition/terminology/determination/standards (new) – 6136
film thickness & – 4558
Surface Tension
alcohols (aq), dispersion components – 8673
determination
— 1241
—contact angles/frictional tension methods – 2917
—liquids, dispersion/non-dispersion components – 4549
—methods, corona treatment & – 4551
—presence mixing – 8680
—time dependence/maximum bubble pressure – 7734
—water – 8686
dynamic
—determination, maximum bubble pressure – 8016
—surfactants – 8016
edges coverage & – 6642
epoxies, blends containing, temp & – 535
modification, corona discharge treaters – 4278
polymers adsorption/surfaces nature – 538
printing inks/plastics substrates – 2594
water/cosolvents, theory/modelling – 4538
water/ethanol blends, surfactants – 8671
Surfacer Compositions
See also filler surfacer compositions & primer surfacer compositions
for plastics – 9564P
water-borne, cement/acrylics/epoxies etc – 953P
Surfaces
acrylics, hydrophobicity, by siloxanes – 8659
adsorption, fluorescence spectroscopy – 4495
analysis of
—ion beams – 7687
—modern methods – 1918, 2877, 7646
—modern methods, books – 747, 4807
—modern methods, corrosion inhibition & – 9682
—modern methods, corrosion inhibitors – 8639
—modern methods, corrosion inhibitors (volatile) – 9446
—modern methods, hydrocarbons on metals – 5278
—modern methods, interfaces, metals/polymers – 9753
—modern methods, review – 7663
—modern methods, surface/bulk analysis – 7657
carbon (activated), unmodified/modified – 5337
coatings
—modification by lasers – 1752P
—polyesters/amino resins, N excess – 8628
concrete, problems, painting & – 7465
depth profiling, FTIR (photoacoustic) – 4528
drops, movement on surfaces, chemical/thermal gradients – 7709

Surfaces *(continued)*
electrochemical properties, scanning/ultramicroelectrodes – 1238
electron emission (optically-stimulated) – 6899
electron tunnelling microscopy (scanning) – 9661
ESCA, depth profile information – 9719
ferric oxide (alpha-), hydroxyl groups – 767
ferric oxide (gamma-), hydroxyl groups – 767
fillers, GC (inverse) – 523
films, latices, surfactants to – 6115
fluoropolymers, modification/characterisation, review – 7497
fractals, adsorption & – 9735
FTIR (photoacoustic) – 6077
imaging, sub-surface &, microscopy (acoustic) – 1263
infrared spectroscopy (reflection/absorption), thin films etc on – 8648
interactions, polymers solutions between – 8662
latices, ESCA/SIMS – 3682
mica
—adsorption/desorption/exchange – 748
—forces between, in melts – 1251
modification, ions implantation – 8349
MS, secondary ion/fast atom bombardment – 2848
particles on, image analysis – 3723
phosphazenes, ultraviolet treatment effects/functionalisation – 3314
photothermal radiometry – 5320
plastics
—plasma treatment, analysis – 6111
—pretreatment/characterisation/adhesion – 1041
polyether-urethanes, ESCA/SIMS – 1953
polyethylene
—fluorination – 4901
—functionalisation, oligomers coprecipitation – 5660
—modification/polarity/ionisation – 1247
polyimides, cobalt compounds/conductivity (electrical) – 2458
polymers
—book chapters/review – 2008
—enrichment (preferential) at – 1217
—ESCA/SIMS – 1918
—infrared spectroscopy – 1959
—one end fixed, Monte Carlo – 7732
—orientation at, spectroscopy (reflectance, internal) – 2874
—SIMS – 3657
polymers surface layers, GC (inverse) – 8638
polypropylene, pretreatment/characterisation – 1038
polyvinylidene fluoride, modification – 4090
printing plates, characterisation/printability – 6989
Raman spectroscopy, detectors (multichannel) – 520
Raman spectroscopy (surface-enhanced) – 6913, 8629
standards, coatings & – 4306
state of, standards development – 7923
steel, after blasting, profiles/contaminants – 2634
steel (rolled), characteristics/painting – 7493
steel (zinc-coated)/coatings fracture – 5269, 5274
titanium dioxide (coated) – 2916
treatment, equipment – 1980s decade 306
urushi varnishes, structure – 2314
Surfactants
adhesives, types etc – 8262
adsorption
—bilayers by flocculation/redispersion – 2255
—on oxides, alternate anionic/cationic – 2023
alkyds &, emulsions/HLB – 220
aminocarboxylates, coatings against ice – 1162P
blends
—emulsion polymerisation (water-in-oil) – 196P
—pigment compsns – 8988P
bubbles & – 3725
castor oil (modified) – 8023P
contact angles (dynamic), measurement direct/indirect – 3749
dispersants – 8975
dispersion presence, effects – 4256
emulsion polymerisation, role/selection/plants – 796
emulsions, particle size/anemometry/zeta potential etc – 1242
films, in oils, stability/mass transfer – 3726
fluorine-containing
—adhesion (intercoat) – 9381P
—pretreatment for electrocoating – 9380P
—toxicology – 9780
hydrophobicity, determination, HPLC – 3754
imidazolines – 6418P
initiators (surface-active) – 4888
interactions, with sols, dispersion etc & – 2255
latices &, to films surfaces – 6115
maleic anhydride copolymers, esterification (partial) – 9115P
phase diagrams, microemulsions etc – 6957
polyethers (sulphonated) – 6666P
siloxanes (unsatd) – 4133P
solubilisers for, diethanolamine derivatives – 808P
sulphonates, emulsion polymerisation, steric effects – 5661
surface tension, water/ethanol/sulphinyl – 8671
surface tension (dynamic)/dilational viscosity – 8016
thickeners (associative) &, rheology/film properties etc – 799
treatment with
—adhesion & – 4263
—plastics, anti-adhesion by – 1122P
unsaturated
—acrylates of olefin diols (alkoxylated) – 9038P
—acrylics synthesis presence – 2546
—allyl alkenylsuccinates – 9037P
—emulsion polymerisation – 4888, 9037P, 9038P
—glycerol derivatives – 1511P
—glycerol monoallyl ethers – 2310P
—glycerol monomethallyl ethers – 804P
—micelles, polymerisation – 7288
—phosphates/sulphosuccinates – 805P
—polymerisation – 3168
—polymerisation presence – 233P
—polymerisation presence, latices from – 6564P
—sulphosuccinates, copolymerisation using – 811P
—thioethers groups, polymerisation presence – 9234P
vesicles, polar/two non-polar groups – 3405P
water-bornes, peel strength – 8607
water-glass & – 9021
Surfactants, Anionic
eicosane groups – 6409
unsaturated, methallyl/glycerol/sulphosuccinates groups – 9036P
Surfactants, Cationic
products, with ammonium, inks – 7439P

Surfactants, Non-ionic
blends
—coatings, heat exchangers fins – 6013P
—water-bornes, silicones & – 5788P
emulsion polymerisation, structure factors – 4033
paint strippers, polyethers, halo etc end groups – 9396P
pigments treated by – 1460
siloxanes copolymers – 7283
tall oil fractions (alkoxylated) – 3146
turbidimetry, salts effects – 1249
Surfactants, Polymeric
block copolymers, mechanisms/advantages – 4869
fluorine-containing, ionomer-forming, & coatings – 4874P
graft copolymers
—from aziridines macromonomers – 2375P
—polymerisation presence – 3183
polyether-esters (sulphonated) – 53
polymers blends compatibility by – 9023
Suspension Polymerisation
acrylates
—& polyfunctionals/macromonomers – 5053P
—acrylics (hydroxylated) by – 2418P
acrylates/comonomers/modifiers – 9119P
condensation polymerisation, factors/use, review – 3176
kinetics – 84
monomers (various), review – 2363
particle size – 2355
polymers/monomers emulsions – 9052
presence cellulose ethers (hydrophobic)/electrolytes – 5671P
principles/processes/suspending agents/initiators, review – 84
review – 3166
surfactants (unsatd) – 2310P
suspending agents/monomers (water-soluble) – 9041P
toners manufacture – 8702
vinyl acetate, inhibition periods/pressure – 117
vinyl chloride
—monitoring/tracers/GC – 1599
—suspension media viscosity – 4091
—vinyl alcohol polymers effects – 157
vinyl halides, particles treatment after – 1603P
Suspension Units
painting, water-bornes, epoxies – 6632
Suspensions
classification, sedimentation/inclined settlers/theory – 8660
coatings, stability, film formers/graft copolymers – 2522P
colloids
—structure, shear induction of – 3617
—structure, shear induction of, light scattering – 3628
concentrated, viscosity (shear), theory/modelling – 3636
filtration, electrical fields/ultrasonics & – 3428
fluoropolymers, in epoxies, adhesion – 1863P
gels, printing inks (heat-set) – 4226
latices, ordering/temp gradients – 3730
light scattering, contrast variation – 7737
manufacture/materials/characterisation, review – 536
particle size, determination – 3706
polyamines/maleimides starting materials – 9155P
polyurethanes, treatment with – 9468
rheology, stability/application/microstructure reforming – 3631
sedimentation, dynamics – 2039
viscosity, theory – 8583
Suspensions, Aqueous
clays, rheology, silicates/phosphates/calcium & – 9648
particulates (slightly-soluble), zeolites/polymers etc & – 777P
pigments, sediment volume/consistency limits/spatial filling values – 2907
salicylic acid polymers – 1123P
Swelling
agents, treatment with, plastics – 5888P
coatings, disbonding/acoustic emissions – 2835
determination, particles, particle size/counters – 3718
epoxies – 7547
fractals – 7714
polyesters (unsatd), NMR – 2871, 2872
polyimides, diffusion &, interferometry – 6162
polyisobutene (cross-linked), amphiphilicity – 837
saccharides (unsatd) copolymers, by water – 2315P
Swimming Pools
anti-slip coatings – 466P
coatings, biocidal ions release – 9530P
linings, ageing/FTIR/compliance – 9664
Synchrotrons
– 3795, 3810
coatings, radiation resistance – 5913
Syringes
plastics, printability, pretreatment – 9385P

T

TACC International
acquisitions by, of Formulated Resins Inc – 7890
Tack
adhesives, insects/animals trapping – 2579P
determination, pressure-sensitive adhesives/methods – 8587
dry, radiation-curables – 622P
microspheres, polymerisation for – 9256P
pressure-sensitive adhesives
—rolling cylinders/theory – 9649
—surface chemistry/rheology etc & – 8587
Tackifiers
acrylics/nitrocellulose – 3388P
adhesives (acrylic), water-bornes – 8265
cyclopentadiene copolymers – 9265P
cyclopentadiene copolymers (hydrogenated) – 835P
cyclopentenylphenols polymers – 6593P
dispersions (aq) – 9234P
emulsions (oil-in-water), via melts/emulsions inversion – 9029P
hydrocarbon resins – 97P
hydrocarbon resins (hydrogenated) – 3158P
hydrocarbon resins (modified) – 5816
metallic finishes, application (wet-on-wet) – 1856P
ocimene/aromatics copolymers – 4034P
petroleum resins (hydrogenated) – 9269P
pressure-sensitive adhesives, acrylics & – 8254
pressure-sensitive adhesives (water-borne) – 3369
proprietary, Tg (high) – 5814
radiation-curables
— 635P
—glycol ether acrylates/epoxies etc – 2177P

Tackifiers *(continued)*
rosin derivatives – 5819P
rosin esters – 1522P
screening, analytical techniques – 3369
terpenes polymers, properties/adhesives – 3370
types/properties/selection/testing – 8263
urethane prepolymers from, adhesives (hot-melt) – 2575P
viscoelasticity, polymers & – 500
Tacticity
NMR (carbon-13), in atactic polymers – 1995
polymerisation, Ziegler-Natta catalysts – 3206
Tainting
beverages, cans coatings, resistance – 5251P
food, paints types & – 5988
resistance, water-bornes, cans – 238P
Taiwan Shinto Chemical Co – 3916
Takeda Badische Urethane Kogyo
diphenylmethane diisocyanates, plants (planned) – 3889
Talc
chlorites containing, standards – 726
dispersions, dispersants/colloids (protective, cationised) – 8989P
market (American, North) – 4683
markets/statistics/producers – 7938
matting agents – 6827P
milling, dry, presence bicarbonates – 1483P
mines (planned), UK – 6292
modified
—by ammonia then organics – 7970P
—by silanes, anticorrosives – 6734
—by titanium dioxide/ultraviolet absorbers gels – 3994
properties/nature/paints use – 5617
properties/uses/grades – 9026
slurries (aq), anti-foaming agents – 1120P
Tall Oil
fatty acids of
—dimerisation/catalysts/viscosity – 4852
—free/esters, HPLC – 6907
—polyamides, water-bornes – 6565P
fractions, alkoxylation, surfactants (non-ionic) – 3146
joint ventures, US/Swedish – 5535
printing inks, newsprint – 7430
products
—demand – 3038
—manufacturers – 5557
—manufacturers (Australasian) acquisition – 5558
Tall Oil Pitch
oxidised, printing inks, newsprint – 1706P
Tanabe Chemical Industries Co Ltd
plants (planned), Japan/Singapore – 4707
Tankers
corrosion, control options – 8385
road, sulphuric acid – 5135
Tanks
See also confined spaces, ships' tanks & vessels
for water, interiors, tar/urethanes – 1850
gases (liquefied), coatings replacement/frozen layers removal – 9382P
linings, fluoropolymers, and spacers between mounting/tank – 2707P
paint defects – 5918
paint manufacture, cleaning – 7449
petrol
—adhesives – 9277P
—anticorrosives – 8435P
—automobiles, anticorrosives – 4300
—coatings, chip resistance – 949P
—linings, petrol (modified) effects – 7547
rinsing, water replenishment, control/monitors – 3430
sewage, manure, durability of materials – 1070
storage
—anticorrosives application – 391
—containment structures, barrier coatings – 7603
—for fuels, linings, fluoropolymers – 8505
—for fuels, repair, primers/linings – 368
—for milk, water-bornes – 6545
—for petroleum gas (liquefied), fire resistance/insulation role – 4385, 6781
—for water, coatings/corrosion control – 391
Tannic Acid
See tannins
Tannins
blocking, primer sealers – 5012
chelating agents, for oxides, effectiveness/AAS – 9681
coatings, for reactors – 827P
condensed, wood preservatives – 9516
corrosion inhibitors, types/properties (Polish) – 9425
corrosion resistance
—mechanisms/review/results – 5143, 5147
—review – 2676
phosphating (org), chelating/mechanisms – 5091
primers, rust/substrates reaction – 300
rust conversion, rust layers composition/structure – 5144
Tantalum Compounds
polymeric, ethoxytantalum dioxide – 3817
Tapes
steel, coiled, edges coatings – 1076P
Tar Acids
pigment pastes – 7800
Tar Sands
titanium dioxide from – 2249
Tar/Urethane Compositions
coatings, tanks (water) – 1850
Tars
coatings, pipes interiors – 9496P
Tata Oil Mills Ltd
titanium dioxide, joint ventures – 7886
Taubmans Industries
acquisition, by Courtaulds, bids for remaining – 1379
competition, with Dulux – 5525
Taxes
Indian, phenolics, litigation – 5530
Technische Richtkonzentrationen
lists – 4615
Technology
collaboration, Japan/UK – 5575
Technology Transfer
Europe to USA – 2193
finishing – 8832
SPRINT programme
—EEC Council – 6331
—European Parliament – 6333
—proposals call – 6330
Television Tubes
See also cathode-ray tubes
Tellurium
heterocyclics containing, dyes, photosensitive compsns – 2148P

Telomerisation
book chapters, review – 2327
Temperature
See also freezing entries in addition to temperature (low)
colour changes, automobiles coatings – 9637P
control, tuning (automatic) – 9331
determination
—electrocoating films during application – 1034
—methods, coil coatings forming & – 5985
—Raman spectroscopy/sulphur dioxide – 3639
determination/control, equipment, directories – 3709
high, effects on coatings – 6812
lightfastness & – 7230
low
—adhesives (anaerobic) – 8286P
—coatings durable minus one hundred and eighty deg C – 8555P
—coatings for plastics – 440
—corrosion rates – 2671
—curing minus five deg C – 8555P
—flexibility – 469P
—flexibility, polyurethanes – 869P
—pipeline etc coatings – 1854
—pressure-sensitive adhesives, application/use/formulation – 9254
—resistance, coatings, particles (core/shell) – 1542P, 1543P
—sealants, mechanical properties – 8602
—wire coatings – 2747P
monitoring, in-process, tracker systems – 6960
painting
—low/high – 6646
—low/high, guidelines – 2633
thermal cycling, polystyrene/positronium annihilation – 6079
Temperature-indicating Compositions – 3955
fusibles/encapsulated dyes/coumarins etc – 4441P
inks, liquid crystals/printing (ink jet) – 5405
marking, lasers – 1709P
reversible, complexes – 3580P
Temperature-indicating Materials
developments/review – 451
pigments, encapsulation – 1462
Temperature-indicating Paints
metallic pigments/resins – 4446P
water-borne, complexes, water/hexamethylenetetramine – 3580P
Temperature-sensitive Materials
See also heat-sensitive & temperature-indicating entries
Temporary Protection
See also strippable coatings
automobiles
—cavities, agents comparison – 8400
—solvents (water-soluble)/overspray – 5933P
carboxyl/hydroxyl/sulphonic groups – 1078P
corrosion inhibitors, carboxylates (hydroxylated) – 4340P
phosphate coatings – 9341
polyesters, functional groups – 1791P
polyvinyl butyral (modified)/corrosion inhibitors (mixed) etc – 4344P
standards – 6358
sulphonates (metal)/diacids (derivatives) – 5164P
surfaces (machined), NADs – 5774P
waxes (oxidised)/waxes (microcrystalline) etc – 1087P
welding scale prevention – 6747P
Tendering
public sector supply contracts, selection – 4745
public works contracts, EEC directives – 9973
Tensile Properties
adhesives (epoxy), phosphotungstates – 5055P
coatings, for glass – 5250P
polymers, strength, book chapters – 1905
Teodur
agreements, with Berger Paints (India) Ltd – 1366
Teratogenicity
diethylene glycol monobutyl ether – 9771
dioxane, studies – 4589
ethylene glycol monomethyl ether, metabolites & – 2109
formaldehyde – 2058, 2953
glycidyl ethers – 2947
paternal occupations – 7767
phthalates – 4809
solvents, Finnish studies – 2968
vinyl chloride, studies – 558
Terbium
complexes, fluorescent coatings – 1139P
Terephthalaldehyde
epoxies from products of – 136P
Terephthalic Acid
esterification, with ethylene glycol – 5721
exposure limits, prediction – 9813
Termites
coatings against – 1816P, 9584P
compositions against
—boric acid – 9883P
—boron compounds – 9526P
insecticides, thiophosphates (chlorinated) – 4367P
repellents, amino acid esters/piperonyl butoxide – 1813P
wood preservatives, pyrethriods – 2730
Terochem Laboratories
acquisition, by Laporte – 3893
Terpenes
copolymers, with petroleum fractions – 9073P
groups, saccharides, molluscicides – 2734
perfumes, emulsion paints (interior) – 4181P
phenolics modified by – 3411P
polymers
—inks, resin acid salts etc & – 8308P
—petroleum resins/copolymers & – 7615P
—tackifiers, properties/adhesives – 3370
resins, barrier coatings, acrylics &, permeability – 7391P
Terpolymerisation
See copolymerisation
Terracotta
simulation, bituminous coatings, latices/fillers etc – 6817P
Testes
phthalates – 573
styrene – 9793
Testing
See also mechanical & fineness testing
accelerated
—plastics – 5315
—plastics, thermo-oxidation/photo-oxidation – 5909
antifoulings, facilities (Dutch) – 9511
coatings, for concrete – 5991
documentation, standards – 6342

Testing *(continued)*
equipment
—adhesives field – 5803
—directories (UK) – 3432
—directories (US) – 8335
equipment (proprietary)
— 6961, 7444, 8652
—exhibitions (German) – 6166
industrial finishing lines, on-line – 2047
instruments, quality control/paint manufacture – 2033
interlaboratory, standards – 8915
intumescent coatings – 3547
laboratories accreditation, Italy etc – 8843
micro-organisms &, papers on – 1448
non-destructive, methods/defects diagnosis etc – 1246
paints
—evaluation schemes/models – 7707
—standards – 5592
plants (industrial) & – 10005
review – 4991
Tetrachloroethane
emissions, cleaning – 582
Tetrachloroethylene
asthma (occupational) – 6172
biological exposure indices – 2942
carcinogenicity
—mice/humans, discussion – 6185
—mice/rats relevance – 7751
—risk assessment – 6194
—studies – 3776
dehalogenation, by organisms – 8740
EEC directives – 4743
effluents, limits/EEC directives – 1384
exposure
—estimation (retrospective) – 6936
—pharmacokinetics, modelling/data amalgamation – 7030
—to mixtures, tolerance ranges – 6186
inhalation – 5371
monitoring (biological), physiological modelling – 9768, 9769
neurotoxicity – 8711
regulations (US)/statistics – 6326
toxicity/permitted levels/actual levels – 6198
Tetrachloroisophthalonitrile
antifoulants
—dithiocarbamates & – 5959P
—thiurams & – 5960P
—thiurams/dialkyl polysulphides & – 5961P
Tetrachlorophthalic Anhydride
immune system – 2071
Tetracyclooctanes
copolymerisation (alternating), acrylonitrile & – 2443
Tetraethylene Glycol Diacrylate
photopolymerisation, conversion (ultimate) – 2993
Tetraethylene Glycol Dimethacrylate
synthesis/characterisation – 7998
Tetrafluoroethylene
hazards – 2437
plasma polymers, etching, & undercoats protection – 9756
polymerisation – 2437
polymerisation (precipitation) – 3172
Tetrafluoroethylene Copolymers
grafting, with trifluorostyrene, electron beams pretreat – 8059
hydroxylated, coatings, weather resistance etc – 1790P
powders, manufacture – 978P
wire coatings – 7586P
Tetrahydroanthracenes
ether-bridged, adducts anthracene-capped polyimides – 3289
Tetrahydrofuran
fluorinated, units (main chain), fluoropolymers – 5185P
photopolymerisation, iodonium/acetophenone (substituted) – 602
polyethers, from oxetanes & – 138P
polymerisation, presence acrylic acid etc – 3268P
polymerisation (cationic)
— 2399
—& cross-linking – 4100
polymerisation (ring-opening)
— 4051
—acrylates – 3989P
polymers, ultraviolet-curables – 643P
radiation-curables, epoxies & – 6228P
synthesis, from butadiene – 3140
unsaturated, polymerisation/structure – 2405
Tetrahydroimidazoles
groups, moisture-curables – 9203P
Tetrahydronaphthylsuccinic Acids
carboxylated, derivatives, products curables – 140P
derivatives
—acrylates – 139P
—polyester acrylates, photocurables – 1318P
polyester acrylates – 625P
Tetrahydrooxazines
groups, phenones – 9854P
Tetrahydrophthalic Anhydride
See also cyclohexenedicarboxylic entries
groups, polyesters (unsatd) – 2775P
substituted, hazards – 6170
Tetrahydropiperazines
thiocyanate salts, curing accelerators – 122P
Tetrahydropyran
fluorinated, units (main chain), fluoropolymers – 5185P
substituted, lactams, polyamides from – 8125
Tetrahydroquinolines
groups, from tetraglycidyldiaminodiphenylmethanes – 4909
photosensitisers – 7107P
tricyanovinyl groups, dyes, recording (heat transfer) – 9322P
Tetrahydrothiophene
derivatives, sulphonium, initiators – 5679
products, sulphonium zwitterions/polymers from – 7358
Tetrahydrothiophene Dioxides
chlorinated, antifoulants – 4366P
Tetralones
naphthoquinone derivatives – 2164P
oximes, styrenesulphonates of, polymers – 3812
Tetramethylthiuram Disulphide
See thiram
Tetraphenylethane
hydroxylated, glycidyl ethers, products with phenols – 3258P
Texas Homecare
acquisitions by, of Sandford/Building Scene stores – 2206

Textiles
See also fabrics
Textured Coatings
basecoat/clear – 3918
for plastics, acrylics/isocyanates – 4398
high-solids, spraying, electronic equipment – 5122
multicoloured coatings – 455P
powder coatings, computers housings – 4200
ultraviolet-curables, for plastics, substrates for – 5430
wrinkle finishes over patterns (printed) – 2796P
Thai Toa Paints & Chemicals
joint ventures, Nitromors & – 3899
Thermal Analysis
See also differential scanning calorimetry, differential thermal analysis & thermogravimetry
bis(aminostyryl)pyridines products – 9132
coatings field use – 9713
epoxies
— 511
—Tg/char yield etc – 4907
epoxies (cured) – 3652
epoxies/melamine, curing & – 2908
epoxy/novolacs – 6140
hot melts, properties & – 2922
plastics, lifetime predictions – 5315
polyimides, from hexaazatriphenylenes/pyromellitic – 8126
polymers
— 8957
—book chapters – 1985
—techniques/DSC use – 6041
—volatiles/degradation, flame ionisation/MS – 3714
titanates (hydrolysed)/acrylics composite films – 9746
titanium dioxide (hydrated) – 5621
tricyclopentanes polymers – 5685
Thermal Conductivity
See 'conductivity, thermal'
Thermal Degradation
acrylics, pyrolysis/thermo-oxidation – 8635
coatings, non-silicones/silicones – 6812
diphenyl ether (brominated), presence air, products – 9542
epoxies
—boron trifluoride curing agents – 4907
—products – 524
polyamides, cross-linking during – 9130
polyamides (aliphatic), yellowing & – 9128
polyesters – 7691
polyesters (unsatd)
—from bicycloheptenes (chlorinated) – 2413
—mechanisms – 5693
polyethylene, processing & – 4567
polymers
—fire retardants effects – 4557
—kinetics, pyrolysis/GC – 3669
—review – 4557
polymers (chlorinated), on zinc – 6701
polymethyl methacrylate, end groups effects – 6969
polymethyl methacrylate (vinyl-terminated) – 9080
polystyrene, flame retardants effects – 5677
polytetrafluoroethylene, toxic products – 7013
polyurethanes, pyrolysis/MS – 3285
polyvinyl chloride
—catalysts, zinc chloride – 4947
—maleates against, Diels-Alder – 5732
—structure/mechanisms/stabilisers – 158
powder coatings, epoxies/monitoring – 2105
thermodynamics, relevant to polyesters – 4911
volatiles from, FTIR (evolved gas analysis) – 9714
Thermal Expansion
coefficient of
—low, coatings, polyamide-imides – 2744P
—polyamides (unsatd) – 6519P
low, polyimides – 8478P
Thermal Insulation
condensation control – 3591P
Thermal Oxidation
See thermo-oxidation & thermo-oxidative
Thermal Properties
bitumens/aggregates, thermal shock/cycling – 8171
coatings, epoxies, thermal shock resistance – 6846P
polymers (hydroxylic)/anhydrides, curing (ambient) – 9758
Thermal Stability
bismaleimides polymers – 3290
bismuth vanadate molybdate (coated) – 11P
enamines polymers, cyano groups – 5745
epoxies (cured) – 849
fluoropolymers, antioxidants/hydrogen fluoride absorbers – 3147
iron oxide, antioxidants treatment – 6382P
phosphate coatings – 1033
phosphazenes (cyclic, unsatd) polymers – 7359
photoresists – 1294
polyamides (unsatd) – 8130
polyester-urethanes, carbon-carbon cross-links – 6495
polyesters (aromatic) – 7339
polyesters (unsatd) – 5693
polyethers (aromatic), pyridine main chain – 1560
polyimides (silicone-modified) – 6995
polyimides (unsatd) – 8130
polymers (ladder), glyoxal/phenols (difunctional) – 845
polypyrazoles – 165
polysulphoxides – 919
polyureas (unsatd) – 8130
polyurethanes, melts – 1610
rosin esters – 74P
thermal shock resistance
—silicates etc – 6010P
—silicones (modified)/mica – 4978P
—siloxanes/mica – 2780P
Thermo-oxidation
acrylic/urethanes – 595
acrylics – 8635
fatty acid esters – 38
hot melts – 2922
polyamides
— 9130
—yellowing & – 9128
polyethylene, processing & – 4567
polyurethane coatings, in situ/films – 5334
siloxanes (modified), adhesion (intercoat) loss – 2489
stability against, polyethers (fluorinated) – 882
Thermochromicity
acetylenes (difunctional) polymers – 8565
marking compsns, invisible/visible – 2606P
materials, developments/review – 451
Thermography
See also photothermal radiometry

Thermography *(continued)*
adhesion & – 5329
Thermogravimetry
bismaleimides – 9126
combination
—with FTIR & GC/FTIR – 7691
—with MS, techniques/advantages/polymers – 6924
polyethylene – 4567
procedures/data analysis – 1978
thermograms, various resins/pigments – 7647
Thermomechanical Analysis
See also differential thermomechanical analysis
block copolymers, isopropenylpyridines/butadiene – 544
coatings/polymers, methods/review – 1191
dynamic
—polyepichlorohydrin/acrylics, compatibility – 6883
—polyesters/melamine resins, curing – 9642
—polymers, liquid crystals groups – 8046
—theory/equipment/polymers etc, review – 5273
polymers, ultrasonics in – 3746
Thermometers
digital, proprietary, manufacturers/products – 7697
Thermoplastics
coatings
—for metals, types/advantages etc – 1129
—polymers types/application/uses/properties – 7372
Thermosetting Coatings
See also heat-curable entries & individual products, e.g. polyurethane coatings
Thermosetting Compositions
See also heat-curable entries & individual products, e.g. adhesives
cyanates, maleimides/allyl ethers & – 1715P
cyanates (polyfunctional)/aromatics – 4112P
cyanates/vinylbenzyl ethers etc systems – 2466P
glycidyl copolymers/anhydride-functional polymers – 2419P
maleimides (cyanates groups)/cyanates (polyfunctional) & – 901P
Thermosetting Resins
bismaleimides/allyl groups products – 2849
diisocyanates/allyl ethers/epoxy acrylates products – 5169P
maleamic acid polymers – 4966P
modifiers for, siloxanes/oxazoline groups – 4128P
phenolics (unsatd), vinylbenzyl groups – 7321P
polyester-imides, from phenolics (modified) – 896P
polyimides (aromatic) – 909P
proprietary – 4724
Thiadiazoles
mercapto groups, epoxies &, ions migration control – 2743P
Thianthrenes
polymers (ladder) – 182
Thiazoles
derivatives (fused-ring), polyamides – 7350P
groups, benzimidazoles, antimicrobial activity – 1818P
Thiazolidinones
groups, epoxy/urethanes (unsatd) – 3300P
Thiazolopyrimidones
biocides – 1807
Thick Coatings
polymers/melamine resins, intermediate coatings & – 4420P
polyurethanes (moisture-curable) – 2529P
powder coatings, polyesters/glycidol products – 1684P
ultraviolet-curables – 626P
undercoats, microgels & epoxies/alkyds – 7621P
water-bornes
—acrylics/urethanes – 233P
—thixotropic agents etc – 4173P
zirconium compounds – 4187P
Thickeners – 4873
acrylic acid polymers – 8098
adhesives, types etc – 8262
aluminium magnesium compounds – 9042P
amines/isocyanates products – 6414P
anticorrosives (water-borne) – 2673
associative
—dispersants (co-) & – 1508
—dispersions/theory & – 6156
—emulsion paints – 2541
—paper coatings – 5646
—pigment dispersions, rheology/latices effects – 8581
—solutions, rheology, polyurethanes – 6871
—surfactants effects – 799
—types/properties/advantages – 5646
—water-bornes – 948
attapulgite – 4871, 9026
carboxylic acids/anhydrides – 1580P
cellulose esters, silicate paints/comparison – 54
cellulose ethers, biodegradation, fungal enzymes – 3525
ceric oxide, manufacture – 783P
clays (modified)
— 6421P
—by hydroxides (mixed) – 3998P
degradation
—cellulase & – 7388
—enzymes/viscosity loss/control – 2720
emulsion paints, viscoelasticity/application behaviour – 2307
emulsion paints (gloss) – 5781
ethylhydroxyethylcellulose – 3996
paint strippers – 9394P
pigment dispersions, rheology/latices effects – 8581
polyamides, monocarboxylics capping – 1515P
polyetheramine-amides – 7353P
polygalactomannans (modified) – 2508P
polysaccharides (modified), by aminosilanes – 4001P
proprietary, lists/suppliers – 2296
silicates (lamellar)/xanthan gum & – 6561P
types/functions/incorporation – 2299
urethanes, silicate paints, & cellulose ethers – 58
vinyl alcohol polymers
—hydrophobic groups (pendent) – 121P
—silicon-containing – 1643P
Thickness
See also film thickness
determination, films (polymer), expansion/gases sorption – 7738
Thiele Engdahl Inc
acquisition, by ICI Speciality Chemicals – 3913
Thiem Corp
acquisition, by National Starch & Chemical Corp – 3909
Thietanes
polymerisation (cationic) – 2488

Thiirans
See episulphides
Thin Films
acoustic waves (surface) – 1244
deposition, ionised-cluster beam, books – 2247
detection, electron emission (optically-stimulated) – 6899
epoxies/silica – 8441P
opacity – 6858
Thin-layer Chromatography
copolymers
—composition distribution – 2895
—composition, emulsion polymers problems – 6107
densitometry, of plates, spectroscopy (photoacoustic) as – 2864
directories – 5297
epoxies – 511
epoxy oligomers, MWD – 7740
equipment, suppliers – 3699
equipment/sorbents, developments/proprietary – 6076
high-performance, epoxies synthesis intermediates – 7689
oils (essential) – 4498
resins (natural), art objects – 2866
rosin – 6090
technique – 3699
toluene diisocyanate, after derivatisation – 2854
Thinners
See diluents & 'diluents, reactive'
Thiobenzoquinones
photo-crosslinking presence – 2132
Thiocarbamates
from isocyanates/mercaptans – 7365P
from polyisocyanates, low hygroscopicity – 6515P
groups, polymers, antifoulants – 8474P
Thiocyanates
allenes, biocides – 2739P
curing accelerators, for epoxies – 1574P
groups, thiophenes, biocides – 1817P
Thioesters
products, with glycidyl ethers – 8159
Thioethers
aromatic, benzoic/phenyl, synthesis – 6403P
chain transfer agents – 1532
groups, spiro compounds – 4943P, 4944P
polyfunctional, unsatd, from mercaptans/unsatd – 3327P
Thioglycollic Acid
initiators, monopersulphates & – 8129
Thioketones
heterocyclics, photoresists – 8773P
Thiophenes
acetylene groups, polymerisation/cross-linking – 4125
derivatives, polymerisation (oxidative) – 8047
electropolymerisation
— 4006
—conductivity (electrical) – 4121
—functional groups/polymers properties – 4124
fused ring derivatives, electron acceptors, dicyanomethylene – 8003
groups, main chain, synthesis/electropolymerisation – 8156
photochromicity, isopropylidenesuccinic derivatives groups – 8299P
polymers
—by oxidation, conductivity (electrical) – 9174
—conductive coatings – 5206P
substituted, amino groups, bisimides/polymers from – 1611
thiocyanates, biocides – 1817P
Thiophosphinites
unsaturated – 9892P
Thiophosphites
unsaturated – 9892P
Thiophosphonites
unsaturated – 9892P
Thiopyrylium Salts
photoinitiators, benzoin derivatives & – 6232P
Thiourea
carcinogenicity, review – 9762
products, with polyamines – 4440P
Thioureas
condensates, with formaldehyde/aldehydes – 170P
ultraviolet-curables, hydrogen control – 9901P
Thiourethanes
adhesives, from polyisocyanates/polythiols – 8280P
vapour curing presence – 898P
Thioxanthones
photinitiators, blends morpholino phenones, interactions – 9830
photoinitiators
—aniline derivatives & – 614P
—benzil/amines & – 3798
photoinitiators (water-soluble), photochemistry/amines – 4637
precursors, thioethers (aromatic) – 6403P
Thiram
carcinogenicity, studies – 8713
Thiurams
antifoulants
—tetrachloroisophthalonitrile & – 5960P
—tetrachloroisophthalonitrile/polysulphides & – 5961P
antifoulings, other agents & – 5952P
initiators, chain transfer/termination &, kinetics/thermal analysis – 8088
polymeric, phosphorus main chain, iniferters – 3315
Thixotropic Agents
aluminium magnesium compounds – 9042P
antifoulings, rosin/cuprous oxide etc & – 4361
attapulgite – 4871
fibres, polymides, uses/properties – 2301
hammered finishes – 5220
polyethylene, uses/properties – 2301
polyisocyanates/carboxylic acids products – 1510P
polymers (carboxylated), water-bornes – 4000P
polysaccharides (modified), by aminosilanes – 4001P
siloxanes, printing inks (screen) – 3406P
titanium chelates – 5658P, 5659P
titanium dioxide – 454P
ureas, from amines blends – 8020P
Thixotropic Coatings
– 4173P
pipes, epoxies etc – 6018P
Thixotropic Compositions
See also adhesives & sealants
polymers particles/polyetheramide-imides solutions – 7434P
polyurethanes
—silica & aminosilanes/isocyanates – 8316P
—silica & silanes/isocyanates – 8535P
silica/polycarboxylic acids amides – 2610P
water-bornes, acrylic/melamines – 1666P

Thixotropy
adhesives (conductive) – 9282P
adhesives (cyanoacrylate), for substrates (porous) – 5054P
emulsion paints, titanium chelates – 5658P
metallic finishes, pigments orientation & – 3579P
paint strippers (water-borne) – 5131P
polyurethane compsns (one-component) – 6414P
printing pastes, polyamide-imides solutions/resins particles – 4231P, 9296P, 9297P
rheometers (rotary) – 4460
water-bornes
— 4173P
—titanium chelates – 5659P
Threshold Limit Values
See also maximum allowable concentrations, Technische Richtkonzentrationen, Biologische Arbeitsstoff-Toleranz-Werte, biological exposure limits & exposure limits
biological exposure indices from, pharmacokinetics – 1279
books containing – 742
styrene, exposure below, symptoms – 9760
US
—ACGIH documentation – 7044
—lists, adopted/intended changes – 2942
—setting of, industry influence – 7784
Thyroids
di(ethylhexyl) phthalate – 570
Ticor Technology
acquisition, by Allure Industries – 1369
Tiles
from cement, cracks detection by primers – 1862P
from slate, powder coatings – 1683P
roofs, stabilisation with polyurethane foam – 8314
Tin
analysis (trace), atomic emission spectrometry, interferences reduction – 1919
determination, in blood, AAS – 1230
tetravalent, determination – 8651P
toxicity/monitoring (biological) – 5599
Tin Compounds
See also organo-tin, stannous & stannic entries
adhesives (anaerobic) – 2586P
catalysts, polyurethane compsns – 4106P
coatings
—siloxanes & – 1171P
—silyl groups, amine/silicones & – 7596P
genotoxicity – 549
TLV – 2942
Tin Oxides
coated
—by silanes (hydrolysed), acrylates & – 2795P
—by silanes, conductive coatings – 2794P
coatings
—on mica – 30P
—on titanium dioxide – 3118P
conductive coatings – 3598P
conductive pigments, blends with acicular – 9597P
doped, coatings of, on flakes – 5636P
modified, conductive pigments – 774P
Tin-free Steel
radiation-curables, combination thermal – 5406
Tinplate
cans, sheets for, epoxy/phenolics, adhesion – 5252P
containers, for paints – 8748
packaging, cans, regulations (Italian) – 3923
radiation-curables, combination thermal – 5406
Tinting
dispensers, mixing apparatus – 7375P
emulsion paints, factors/oil absorption/porosity – 7706
lids with colours capsules – 8562
systems (proprietary), high-solids/vehicles (motor) – 3566
Tinting Strength
See also colour strength
carbon black, lower – 5623P
dyes (insolubilised) – 26P
paints, determination – 8939
pigments, dispersion degree determination – 6338
Tioxide Group
quality assurance, ISO standards/registration/measures – 2208
subsidiaries (Japanese) – 682
Titanate Coupling Agents
anticorrosives – 2691
coatings, polyvinyl acetal/phenolics products & – 1870P
copper powders & – 6011P
correction fluids – 2601P
primers, fatty compounds & – 6024P
Titanates
adhesion promoters, for titanium alloys – 7636
alkali metal, & synthesis/fibres production – 5633P
catalysts
—epoxies polymerisation, phenols co-catalysts – 840
—for transesterification, phosphorus compounds effects – 5699
coatings – 1360
conductive pigments, blends with non-acicular – 9597P
copolymers, with silanes – 9184P
fibres
— 5633P
—conductive coatings, durable sliding contacts – 6008P
—matt coatings – 1077P
fibres etc (coated), conductive coatings – 6003P
fluorinated, anticorrosives etc – 9499P
high-solids coatings, viscosity reduction – 4169P
hydrolysis, hybrid films, acrylics &, thermal analysis – 9746
oil paints – 43P
phosphates/phosphites, conductive coatings – 9616P
polymerisation presence – 8210P
powder coatings – 983P
products
—with phosphites – 4080P
—with polymers, moisture-curables – 2704P
resists, acrylics & – 7812P
silicate paints – 223
titanium dioxide modified by
— 4813
—polymerisation acrylics – 4906
unsaturated, photocurables, surfaces treatment etc – 5482P
wire coatings, polyamides & – 1821P
Titaniferous Ores
acquisition of interests in – 3915
Australia
— 2195
—Cooljarloo, & processing – 6367
—deposits/plans, Cataby – 3053
—mines/processing, joint ventures – 1374
—mines/separation plants – 6293

Titaniferous Ores *(continued)*
beneficiation, Brazil – 2196
Cameroon – 2248
Canada/South Africa – 3915
companies/capacities etc – 7947
concentrates, Brazil, to Du Pont – 7162
India, Gujerat state – 7886
magnesite (titanium-containing) – 5622P
mines, Florida, new sections – 6310
New Zealand
—feasibility studies – 9935
—processing – 7936
South Africa – 7952
supply problems (potential) – 3030
treatment, iron oxide (micaceous) – 7967P
Titanium
alloys
—bonding, adhesion promoters – 7636
—conversion coatings, fluorides ions etc – 4289P
—hydrogenated, titanium dioxide manufacture – 4850P
analysis (trace), voltammetry, presence iron(III) – 2869
chelates
—cross-linking agents – 6419P
—from titanates, emulsion paints – 5658P
—from titanates, water-bornes – 5659P
chemisorption (dissociative) on, water – 2004
conversion coatings
—fluorides ions etc – 4289P
—fluorides/nitric/sulphuric etc – 5889P
hydrogenated, titanium dioxide manufacture – 4850P
recovery, from paints wastes – 1369
Titanium Compounds
catalysts, moisture-curables – 5004P
coatings, siloxanes (ladder) & – 6526P
conditioners, before phosphating – 4284P
polyamides &, equilibriation – 6768P, 6769P
polymerisation presence – 8210P
polymers
—titanocarbosilanes, coatings – 4374P
—titanocarbosilanes, powder coatings – 5036P
pyrophosphates, other groups, adhesion promoters – 5651P
titanocarbosilanes
—antifouling paints – 3492P
—heat-resistant coatings – 3595P
Titanium Dioxide
– 9195
acicular, coated, conductivity (electrical) – 3118P
adsorption on
—acrylics, solvents effects – 1243
—alkyds, solvents/MW etc effects – 2017
—aromatics, surface hydroxyls effects – 6146
—carbon monoxide – 9733
—polymers, stabilisation by – 2911
—surfactants, alternate anionic/cationic – 2023
analysis, trace elements, pigments/paints – 2881
book chapters – 7224
coated
—acicular, light transmit/ultraviolet absorb – 4849P
—by aluminium oxide/silica simultaneous – 2916
—by silica, photoactivity – 3111
—by silica/boric oxide – 2272P
—by thin resins films, dispersibility etc – 19P
—conductivity (electrical) – 6003P
—pH titrations/surfaces/charges – 2916
coatings
—durability & – 2658
—opacity & – 5260, 6034
—pigment manufacture methods/treatment effects – 756
coatings of
—on iron oxide (flake) – 3130P
—on iron oxide (micaceous) – 3131P
—on mica – 30P, 3112, 4844P
—on mica, rutile form – 2275P
demand growth/prices – 7120
determination
—in paints, X-ray fluorescence – 8925
—road marking compsns – 8933
dispersibility, determination – 2924
dispersion, in polyesters – 4835P
dispersions (aq), rheology/latices effects – 8581
dusts, toxicology – 3780
electron beam-curables, mechanical properties – 1186
electrophoresis, in water-bornes, factors – 2911
emulsion paints
—extenders/porosity & – 7706
—hiding power – 2810
emulsion paints (matt), formulation – 7725
emulsion polymerisation presence, kinetics/encapsulation – 4906
encapsulation, by polymerisation presence, agglomeration resistance – 2329
extender pigments & – 5769
forecasts/supply/demand etc – 5513
formulation
—content, hiding powder/total costs ratio – 5769
—extenders/hiding power & – 2806
from tar sands – 2249
gels, coatings of, ultraviolet absorbers incorporated – 3994
hiding powder, prediction – 2818
hydrated
—from tetrachloride, presence/absence urea – 4
—gels, formation presence ammonium – 5621
impurities, iron/chromium – 7228
manufacture of
—acids recycling/neutralisation – 7048
—allergies – 5351
—beneficiation plants/deposits, Brazil – 3062
—chloride process, anatase from – 3104
—chloride process, plants construction – 4714
—chloride process, plants, Australian – 4703
—chloride process, reactors – 5628P
—companies/expansions/developments – 1
—companies/plants/statistics etc – 7946
—concentrates for, Brazil – 7162
—Czechoslovakia – 9909
—effluents problems reduction – 2201
—feedstocks for, companies/statistics/grades etc – 7947
—from alkoxides, hydrolysates hydrothermal treatment – 763
—from perovskite – 7229
—grades (new) – 1365
—hydrolysis/seeding processes comparison – 8971
—hydroxide/sulphuric/hydrogenated titanium etc – 4850P
—joint ventures, India/USSR – 7886
—joint ventures, Philippine etc, in Malaysia – 7124
—joint ventures, Thailand – 6300
—magnesite (titaniferous) – 5622P

Titanium Dioxide *(continued)*
—mines/ore processing &, joint ventures – 1374
—New Zealand plans – 7936
—ores/processing, Australia – 6367
—plants (planned) – 7119
—plants (planned)/beneficiation scale-up – 2196
—plants capacity increases, Japan – 7874
—plants construction, China – 4715
—plants expansion, Mexico – 9930, 9935
—plants, Australasia, & rutile – 7180
—plants, India – 4711
—plants, Singapore – 6306
—pollution – 3032
—situation/forecasts/interviews/German companies – 7948
—statistics/forecasts/markets – 658
—statistics/plants/companies/pollution avoidance – 7234
—sulphate process, acid concentration/recycling – 6381P
—sulphate process, black liquor treatment – 15P
—sulphate process, ferrous sulphate crystallisation – 3963
—sulphate process, plants expansion – 7895
—sulphate process/filtration – 7248P
—sulphuric acid for – 4823P
—sulphuric acid recycling – 9808
—sulphuric acid/aluminium (metallic) – 7249P
—titanium feed from waste acids – 3107
—titanium sulphate from Ti(III) – 7980P
—US companies/Brazil – 9959
—wastes disposal/emissions, EEC directives – 8856
—wastes treatment – 7061P, 7062P
—wastes treatment/acid recycling – 7895
—wastes/disposal/EEC – 7912
—wastes/EEC directives (proposed), amendments – 4742
manufacture/properties, book chapters/review – 6369
manufacture/properties/uses etc – 6373
manufacturers (UK)
—quality assurance – 2208
—subsidiaries (Japanese) – 682
manufacturers (US)/demand/forecasts/prices/uses etc – 7132
market, supply/demand etc – 3031
market/technology forecasts – 1331
metallic finishes – 9586P
modified
—by aluminium compounds/siloxanes – 4830P
—by silicon compounds, photoactivity – 1459
—by titanates – 4813
—effects on curing/properties – 4819
—oxygen gas/gaseous org treatment – 4847P
—yellow pigments – 6388P
—zinc oxide doping, effects – 4819
oxides (mixed)
—Ti/Fe, studies/iron(III) reduction – 4546
—Ti/Ni/Sb etc – 6388P
—Ti/Zr – 1487P
particle size, determination, crystal size & – 8669
particle size distribution, light scattering (zero angle depolarised) – 6127
particles, packing (ordered), domain size – 2012
photo-oxidation, of alcohols on – 1464
photoactivity
— 4299, 6369
—determination/mechanisms, isopropanol substrates – 2253
—glycol ethers & – 6377
—testing, isopropanol/paints methods – 2254
photochemistry, water/hydroxyl radicals – 8388
photocurables, curability – 1323P
polymeric, from alkoxides, paramagnetism – 3817
powder coatings, selection factors – 7231
prices
— 7133
—increases – 9903
prices (Indian)/imports – 3866
prices/demand/plants (planned)/pollution – 3867
prices/markets/future capacity – 645
prices/shortages etc – 7119
printing inks, driography – 5065P
proprietary – 7219
PVC (effective), equations – 2818
raw materials, Australia – 2195
reduced, hydrogen/ruthenium &, NMR – 8626
replacement, talc – 5617
replacement (partial)
—aluminium oxide (hydrated), effects – 2265
—barium sulphate – 4814
—calcium carbonate (aragonite form) – 4837P
—light scattering – 6967
—magnesium carbonate (calcareous) – 3
respiratory systems – 3766
rutile
—Australia, for chloride process – 2195
—producers – 7943
saving of, wetting agents & – 5616
shortages, effect on other pigments – 5511
silicate paints – 223
slag, assets acquisition – 3915
slurries (aq), bacteria/hygiene/biocides – 2715
sols, silica sols & – 7236
statistics (Argentina), imports – 4680
statistics (Japanese) – 1365, 6252, 6260
statistics/capacity increases (Canadian) – 2180
statistics/capacity plans/prices – 3032
statistics/demand (Japanese) – 8816
statistics/forecasts, supply/demand/problems – 3030
statistics/forecasts/pigment developments – 659
statistics/market (US)/activities – 7133
statistics/markets (Japanese) – 1353
statistics/New Zealand assets sale – 6316
statistics/plans/prices/forecasts, & overestimates – 9912
statistics/plants/prices/situation/forecasts – 5503
statistics/supply/demand/capacity/forecasts – 1355
supply/demand
—forecasts – 7830
—statistics/outlook – 3033
supply/demand/prices increases/forecasts – 6261
supply/demand/statistics, Japan – 1338
surfaces, reduction effects – 5615
suspensions, filtration – 3428
thixotropic agents – 454P
titanium pigments, statistics – 5511
transparent coatings, for plastics – 3562P
treated, coatings, properties/treatment – 756
treatment, aq processes, & electrocoating – 6386P
water-bornes
—grades selection/properties – 1461
—stability/surface charges etc – 2919
—with reduced requirements – 232P
water-soluble content, determination – 8969
weathering, natural/accelerated/grades – 8386
wetting agents (polymeric) & – 8014

Titanium Oxides
acicular, conductive pigments, non-acicular pigments & – 9597P
hydrated, titanium(III) hydrolysis presence urea – 4820P
Titanium Phosphate
activators, before phosphating – 2640P
anticorrosives, epoxy/polyesters & – 9472
synthesis/phosphating activators use – 8360P
Titanium Sulphate
synthesis, from Ti(III), catalysts – 7980P
Titanocenes
photoinitiators
—coumarins & – 2139P
—light (visible), mechanisms – 4631
Titanoxanes
cyclic
—coupling agents – 9044P
—polyethers (fluorinated) groups/hydrolysables – 9180P
Titrations
See also conductometric titrations, potentiometric titrations & titrimetry
Titrimetry
formaldehyde, solutions standardisation – 1204
titanium dioxide (coated), pH titrations – 2916
Toa Paint Co
titanium dioxide, joint ventures – 6300
Tocopherols
antioxidants
—effects/crossover to pro-oxidant nature – 9004
—linoleates & – 9003
Tokuyama Soda
joint ventures, epichlorohydrin – 6311
Toluene
adsorption, on titanium dioxide – 6146
bacteria tolerating presence – 5180, 5182
biodegradation – 8743
blends, with styrene, toxicity – 553
determination, in water – 2000
diffusion
—in polymers – 4554
—toluene/polystyrene solutions – 5340
drying, water adsorption – 2283
exposure
—above limits, livers & – 2080
—benzene &, metabolic suppression (mutual) – 2954
—blood/adipose levels during/after – 7769
—estimation (subjective), by hygienists – 5364
—ethanol &, blood erythrocytes – 2107
—fatty acids/triglycerides in plasma – 7777
—livers – 2946
—livers/serum bile acids – 4581
—monitoring (biological) – 7684
—signs/symptoms, benzene & – 2116
—to mixtures, tolerance ranges – 6186
hazards/toxicity/uses/properties/safety – 7221
inhalation, brains/electroencephalographic activity – 2102
monitoring (biological)
— 566, 3663, 7669
—blood/alveolar air/air – 4573
—painters – 7761
—physiological modelling – 9768, 9769
neuropathy – 2089
neurotoxicity – 9770
photo-oxidation, presence nitrogen oxides, products/mutagenicity – 3783
prices/markets/statistics, USA – 9924
substituted, perfluoroalkyl groups, synthesis – 9007
toxicity, reproductive systems/hormones etc – 7040
toxicology
—astroglial/neuronal cell cultures – 2951
—livers – 2076
Toluene Diisocyanate
allophanate groups formation – 1616P
asthma
—mechanisms – 4572
—recurs after eleven years – 6171
asthma (occupational) – 6172
determination
—in air, reaction/TLC – 2854
—in air, sampling/chromatography (ion-pair) – 9686
exposure limits (multiple), exposure control – 2962
free, determination in prepolymers, GC – 9677
prepolymers, synthesis/polyurethane-ureas – 3297P
reaction, with polyester polyols, catalysts – 6498
sampling, samplers (diffusive) – 4622, 4623
sensitisation, protein conjugates challenges & – 2055
statistics (US), exports – 3043
substituted
— 2471P
—alkenyl groups – 4104P
supply/demand/uses/forecasts – 5528
synthesis, plants (new), China – 7863
synthesis/synthesis costs – 5528
toxicity, previous overestimation – 556
Toluenediamines
bismaleimides, powder coatings, epoxies & – 9244
Toluenesulphonates
nitrobenzyl groups, photoresists – 597
of benzoin, catalysts (latent) – 2524
Toluenesulphonic Acids
derivatives, catalysts (latent) – 6447
release agents, polymers & – 2793P
Toners
manufacture, suspension polymerisation/particle size – 8702
polymers, polymerisation presence dispersants (reactive) – 826P
Tools
garden equipment etc, electrocoating – 5866
Topcoats
automobiles, polyesters (hydroxylated)/reactive resins – 9617P
containers closures – 9575
electrocoating (cathodic) as – 1656
Tor Coatings Ltd
management buy-backs – 3894
Torrance & Sons
acquisition, of Eiger Engineering – 8319
Torsional Braid Analysis
epoxies, curing – 8590
equipment/techniques/computers/examples – 6863
Toto Kasei
joint ventures, epichlorohydrin – 6311
Towers
water, concrete (reinforced), repair/materials – 3464
Toxaemia
women (pregnant), solvents – 6179
Toxic Gases
combustion products, polymers, tests – 8717

Toxic Gases *(continued)*
detection, pattern recognition – 3693
sampling
—detection/determination, detector tubes – 1428
—diffusive samplers, length-of-stain – 1433
Toxic Hazards
assessment, occupational, strategies – 7758
combustion products (org) – 7027
fires, testing, small-scale/integrated approaches – 4579
lead-containing paints/petrol – 7058
paints, paint types & – 5988
powder coatings – 7770
Toxic Materials
disposal, regulations (German) – 9969
effluents, regulations (US)/finishing – 581
leaching, from polyvinyl chloride – 7019
pigments, Europe/USA – 652
products containing, customers notification – 709, 720
toys, standards – 7926
Toxic Substances Control Act 1976
US
—compliance, requirements/programmes for – 9982
—requirements – 5454
Toxicity
See also carcinogenicity, exposure limits, neuropathy, neurotoxicity etc – 2054
acetaldehyde – 572
acrylamide – 9765
acrylates – 2098
acrylic acid – 2098
amines, DNA repair tests – 2099
ammonium perfluorononanoate – 9780
aniline – 4588
benzene, mechanisms/review – 2087
benzene/toluene, metabolic suppression (mutual) – 2954
butadiene – 2950
carbon tetrachloride/trichloroethylene, acetone potentiation of – 2949
chemicals
—data sheets – 5601
—eighty-eight thousand, RTECS – 2246
—over twenty thousand entries – 742
chromates – 3778
chromium – 1272
cobalt, rats (pregnant) – 6187
combustion products
—data assessment/use – 6190
—fire retardants & – 4568
—polymers – 7015
—testing protocols evaluation – 1269
di(ethylhexyl) phthalate – 570, 7032
diacetone alcohol – 4590
dibenzofurans (chlorinated) – 8728
diethylene glycol monohexyl ether – 2052
dimethylformamide, livers – 4602
dioxane – 4589, 8710
dioxins (chlorinated) – 8728
diphenylethanes (chlorinated), review – 9799
diphenyls (chlorinated) – 9766
effluents, testing, test organisms use – 9814
epoxies/components, review – 550
ethylene glycol monohexyl ether – 2052
formaldehyde, review – 4582
genotoxicity, various inorganics – 549
glycol ethers – 5347
glycol ethers/ether acetates – 2104
heptane – 2083
hexachlorocyclohexane – 2085
immune system, effect/strategies/review – 574
isocyanates (blocked) – 1607
isophorone – 4591
isopropanol, noses – 9788
lead, aquatic/terrestrial/micro-organisms – 9798
mercury, review – 9800
methyl isocyanate – 2060
methylene chloride – 2088, 4600
morpholine – 7753
organo-tins
—dogwelks/salmon farming/other species, review – 2726
—effect levels/various species – 9801
phthalates
— 573
—books/review – 4809
polyacrylate (sodium) – 8716
smoke, hydrogen chloride, & mixtures – 1273
solvent blends, kidneys – 553
solvents
— 4788
—various – 7221
styrene, neuritis (retrobulbar) – 2100
testing
—bacteria/bioluminescence – 2970
—organisms used – 2970
tetrachloroethylene – 6198
toluene, reproductive systems/hormones etc – 7040
toluene diisocyanate, previous overestimation – 556
trichloroethane, inhalation – 8718
trichloroethylene
— 4595
—kidneys – 2948
wood preservatives – 415
zirconium compounds – 2304
Toxicology
amines (tertiary) – 548
anhydrides, review – 7042
asbestos, retinoic acid effects – 9782
benzene – 2116
book chapters – 742
butylphenol – 2955
cadmium – 564
chemicals, testing for registration – 5348
chemicals (existing), reviews, eighteen hundred chemicals – 5360, 9772
chemicals (org), partition coefficient calculation – 7771
chromates, review – 1421
cobalt blue – 3777
cresols – 708
dimethylethanolamines – 5366
dithiocarbamates, review – 5383
ethylene glycol monoethyl ether – 7772
formaldehyde
— 2058, 2953, 3235, 6183
—drinking water route – 5381
hexamethylene diisocyanate, biuret-modified & – 2048
metals – 5599
methyl methacrylate – 4574
nickel, review – 4578
overprint varnishes (ultraviolet-curable), safe systems – 9827

Toxicology *(continued)*
pentachlorophenol, uses/properties/impurities & – 2113
phenol – 3235
plastics (reinforced) plants/styrene – 4593
powder coatings, polyesters/isocyanurates – 7778
proprietary products (specific) – 3096
propylamines – 5372
quartz, review – 1422
silica, review – 1423
solvents, livers – 2076
styrene
— 7020, 9793
—mice/foetuses/metabolites, autoradiography – 7763
titanium dioxide – 3766, 3780
toluene
— 2080, 2116
—astroglial/neuronal cell cultures – 2951
trichloroethylene – 5376
vanadium, review – 5384
vinyl chloride – 554, 558
Toyo Ink Manufacturing Co
financial performance/activities – 7181
joint ventures, Du Pont &, inks marketing – 6299
Toys
coatings, metals (soluble) testing/limits – 3944
flammability, requirements/testing – 8945
metals (heavy), determination migratable, & limits – 8940
paints, regulations (UK) non-compliance – 1268
safety
—regulations (European)/standards – 719
—regulations (UK)/labelling – 8858, 9979
—standards – 7926
water-bornes, containers (tube-like) containing – 9221P
Toys (Safety) Regulations 1989
provisions – 8858, 9979
Trace Elements
See also analysis & metals
Trade Associations
directories, professional bodies & – 738
directories (UK) – 7933
French, paint manufacturers, activities – 6315
German, public relations activities – 1382
painters, co-operatives, Germany – 6318
paints, USA – 1380
UK, furniture materials suppliers – 7928
US
—community service, painting – 2211
—regulations/graffiti/solvents/watchdog etc – 3072
Trade Effluents (Prescribed Process and Substances) Regulations 1989
provisions – 9976
Trade Marks
lists, directories (French) – 5600
Trade Names
additives – 57, 798
antifouling paints – 4799
biocides – 4799
building materials – 4801
chemical industry, lists – 6360
decorating field, lists – 10006
drying oils – 787
fatty acids – 787
fire-resistant products, for steel – 4789
furniture materials suppliers – 7928
handling (bulk) directories with – 4257
laboratory equipment – 10001
lists
— 10007
—directories (French) – 5600
maintenance paints – 8397
marine coatings – 8397
metal finishing handbooks (US) containing – 4798
paint industry (Italian) – 4810
photoinitiators – 2982
polymers/monomers etc, lists/producers – 2241
printing ink industry (Canadian) – 4224
printing inks etc, lists – 3397
raw materials
—Canadian lists – 7259
—for adhesives – 7218
—for paints – 7219
resins – 8045, 8954
sheet metal industries – 2243
solvents – 2245
UK, including imported, lists – 6365
Tragacanth Gum
stabilisation (steric) by, pH effects – 3762
Training
paint technology, courses – 7908
painters, vehicles (motor), EEC/qualifications – 8852
quality control/quality assurance & – 2217
value added & data services & – 706
Transesterification
catalysts
—polyesters synthesis – 2427P
—siloxanes/acrylates – 2504P
—titanates, phosphorus compounds effects – 5699
fatty acid esters/polyols – 6399P
methyl methacrylate/alcohols – 4076P
polyesters, blends, neutron scattering/equations – 6122
reactors, alkyds synthesis, control – 9336P
resistance
—polymers/pigments blends – 4930P
—polymers/stabilisers – 4931P
vinyl acetate copolymers – 5703
Transfer Materials
See also decalcomanias & 'printing, transfer'
coatings (patterned) on release layers – 3819P
release layers/patterns/adhesives, on supports – 2605P
thermal
—inks, perfumes in microcapsules – 9315P
—inks/substrates, waxes/binders etc – 8311P
—naphthylsuccinic acids (carboxylated) – 9323P
Trade Sales Paints
See decorative coatings
Traffic Paints
See road marking compositions
Transfrontier Shipment of Hazardous Waste Regulations 1988
amendments, wastes (special) & – 1391
provisions – 713
provisions/guidance, UK circulars – 7913
Transitions
See also phase transitions
above Tg, liquid/liquid, copolymers – 1257
GC (inverse) – 2843
polymers, DSC – 6041
time/temperature/transformation diagrams, curing – 2827, 6863
tough/brittle, polymers (toughened), criteria – 6880

Translation
coatings terms, seven languages – 4805
Translations
journals, guides to – 729
paints terms, English/French/German – 6337
Transparency
acrylics/polymers (fluorinated) – 6488P
adhesives (water-borne), acrylics/modified rosin – 4220P
pigments (org) – 6851
polycarbonates/acrylics, blends – 6476P
polyether-urethanes (fluorinated) – 4963P
translucent materials, colour matching – 3602
waxes, improvement with pigments – 406P
Transparent Coatings
See also lasurs
abrasion resistance, grindstone – 6828P
acrylamide copolymers (substituted) – 1172P
acrylates, tetrahydronaphthylsuccinic acids derivatives – 139P
acrylics (hydroxylated), sec-hydroxyl – 2797P
anti-slip coatings
—aluminium oxide particles – 9596P
—polymers/beads, aggregates over – 9595P
basecoat/clear
—basecoats with anhydrides/polymers – 5246P
—epoxy compounds/copolymers – 8544P
—hydroxylics/amino resins – 9601P
—wet-on-wet on acrylics – 4430P
—yellowing resistance – 4994P
cellulose acetate butyrate – 4435P
chemical resistance – 8909
chip resistance, over coated areas – 1176P
conductivity, silanes/oxides – 3598P
corrosion resistance, fluoropolymers/iron oxide – 6743P
cross-linkable, basecoats (two-component) under – 9623P
epoxy compsns – 148P
fluorescence, quality control etc – 6672P
fluoropolymers, over/under melamine/antioxidants – 5179P
fluoropolymers (hydroxylated)/curing agents – 8523P
fluoropolymers/acrylics – 4952P
for glass, anhydrides/amino silicon products – 6002P
for metals, fluoropolymers on acrylics – 4331P
for plastics
—acrylics (fluorinated) – 4408P
—bleeding resistance – 443P
—glass replacement/weather resistance – 3562P
for stainless steel, fluoropolymers/curing agents/ultraviolet absorbers etc – 5177P
for wood, ultraviolet resistance etc (proprietary) – 349
glycidyl copolymers/acrylic acid products – 151P
golf balls, optical brighteners – 9546P
graft copolymers (hydroxylated) – 9068P
high-solids, acrylics (reactive), synthesis presence alkenes – 6543P
melamine resins/hydroxylics – 9614P
NADs
—acrylics – 1867P, 1868P
—dispersants (polymeric) – 1151P
over water-bornes, basecoat/clear – 8223P
paintings – 4910
particles (transparent) – 2783P, 2784P
polyamide-imides, siloxanes groups – 2497P
polymers (hydrophobic)/polymers (amide groups) – 2790P
polymers/pendent acrylates – 152P
polyols (fluorinated)/amino resins – 6744P
polyurethanes, automobiles basecoat/clear – 5088
polyurethanes (fluorinated) – 6744P
polyurethanes (sulphonated)/siloxanes – 475P
popping, avoidance, epoxy compsns – 874P
powder coatings, markets/requirements/types/properties – 9242
radiation-curables, cost/performance analysis – 5496
retroreflection sheets, acrylics/isocyanates – 6831P
scratch resistance, weather resistance & – 1165P
semiconductors, polyimides – 4444P
siloxanes, silica/heterocyclics/aluminium compounds – 462P
staining resistance – 8909
surfactants (polymeric, reactive) – 4874P
ultraviolet opacity – 5248P
ultraviolet-curables
— 1308P, 1309P
—glycidyl copolymers/onium – 5413
vinyl alcohol polymers (modified), by aldehydes – 1174P
wallcoverings with – 6001P
water-borne
—fire retardance/antimony oxide (condensed) – 1834P
—latices (cross-linked/fine) – 5023P
—silica/silanes (hydrolysed)/cosolvents – 1166P
waxes (modified) – 1553P
weathering, substrates staining resistance – 6744P
weathering (accelerated), gloss retention/chemical etc changes – 5910
wood sidings treatment – 1056
zirconium compounds – 4187P
Transparent Substrates
coatings, silanes & anhydrides/aminosilanes products – 5777P
multicoloured coatings, interference/absorption, three colours – 6830P
Transport
aerosols, cans, regulations (German/international) – 5588
air, hazardous materials, regulations (international) – 5586
hazardous materials
—regulations (European)/packaging – 1399
—regulations (German) – 9983
—regulations (international) – 5578
lead-containing pigments etc, regulations (German) – 6325
marine
—hazardous materials, regulations etc changes – 6206
—hazardous materials, Standing Advisory Committee reports – 4746
printing ink vehicles, drums (disposable) – 2123
rail
—hazardous materials, regulations (international) – 6206
—loading, ventilation – 5350
road
—chemicals, trailers corrosion causes/control – 2674
—gases (compressed), codes of practice – 3929
—hazardous materials, labelling/classification, regulations (UK) – 7205

Transport *(continued)*
—hazardous materials, regulations (international) – 6206
—hazardous materials, regulations (UK) – 8860
—hazardous materials, regulations (UK)/codes of practice – 5584
—hazardous materials, regulations, UK harmonisation EEC – 4761
—transporters corrosion/repair etc – 4324
sulphuric acid, expert systems – 9794
transfrontier
—wastes (hazardous), directives (proposed) – 2222
—wastes (hazardous), regulations (UK) – 7913
wastes (controlled), carriers registration – 8859
Trees
oils (essential), TLC – 4498
Triallyl Isocyanurate
gamma-rays &, acrylics (chlorinated) & – 6482
Triamines
triaminobenzenes, networks from – 5739
Triazines
groups, main chain, from chlorotriazines/aromatics – 4957
halogenated
—photochromic compsns, dyes & – 5240P
—trihalomethyl, photoresists – 5466P
hydrazines groups, solder mask coatings – 2791P
imidazoles groups, products, curing agents – 2430P
mercaptan groups, hydrazines groups, antifoulants/anticorrosives – 3524
photoinitiators
—allenes ligands/heterocyclics & – 5464P
—heterocyclics & – 2146P
pigment compsns – 8985P
polyesters, from diols/diacids etc & – 1588P
tricyclics groups etc, dispersants – 6424P
unsaturated, propenylphenoxy groups – 4971P
Triazoles
derivatives
—complexes, antifoulants – 6729
—hydrazinothio, & related hydrazones, antifoulants – 6729
groups, main chain, from hydrazides groups – 4958
Triboelectricity
See also charging (triboelectric)
Tributyltin Acrylate
copolymers, light scattering – 6161
polymers, for wood – 9524P
Tributyltin Compounds
degradation, in coatings – 2714
determination
—in fish/sediments, & degradation – 6087
—in sediments – 1938
—in water – 2001
mussels, levels, USA – 8737
oysters, effects/ban effects – 9521
pollution
— 2726
—uptake/degradation/monobutyl release, plants – 5387
—USA, oysters/mussels levels – 3787
pollution/degradation half-life, marinas – 6203
sampling/determination, containers adsorption losses – 7655
water pollution, source/fate/determination – 4613
Tributyltin Oxide
determination
—in water, AAS, graphite furnace modification – 9672
—in wood/preservative solutions – 9670
replacement – 4354
wood preservatives, replacement/retention UK – 4355
Trichloroethane
adhesives, safety/performance/environment etc 9006
biological exposure indices – 2081
coatings, properties/compliance systems/health aspects etc – 1491
compliance coatings – 7794
degreasing
— 7489
—conversion to from alkaline – 9355
determination, in water – 2000
EEC directives – 4743
explosions, tanks/welding – 6196
exposure, to mixtures, tolerance ranges – 6186
hazards, fires/explosions – 4575
monitoring (biological)
—expired air sampling – 5284
—physiological modelling – 9768, 9769
neurotoxicity, brains/cGMP levels – 2103
regulations (US)/statistics – 6326
solvents, properties/formulation/health etc aspects – 5638
stabilisers, stability to metals above eighty deg C – 1502P
toxicity, inhalation – 8718
Trichloroethylene
accidents, confined spaces – 561
biodegradation – 8743
biological exposure indices – 2942
carcinogenicity, mice/humans, discussion – 6185
effluents, limits/EEC directives – 1384
emissions, cleaning – 582
exposure
—estimation (retrospective) – 6936
—pharmacokinetics, modelling/data amalgamation – 7030
—reproductive systems/lymphocytes – 5376
—sclerosis (multiple) studies – 7762
inhalation
— 5371
—skin effects – 2073
kidneys – 7754
livers, corn oil/aq gavage – 4595
metabolism, enhancement, ethanol/phenobarbital – 4599
monitoring (biological)
—effects of other chemicals on levels – 2086
—physiological modelling – 9768, 9769
mutagenicity, Salmonella tests – 9784
regulations (US)/statistics – 6326
stabilisers, mutagenicity stabilised, Salmonella tests – 9784
toxicity
—carbon tetrachloride/acetone with – 2949
—corn oil v aq gavage – 4595
—kidneys – 2948
water pollutants, treatment – 8732
Trichlorotrifluoroethane
dichloroethylene/stabilisers & – 5641P
regulations (US)/statistics – 6326
replacement, with dichlorodifluoroethanes etc – 6405P

Trichlorotrifluoroethane *(continued)*
solvent blends
—dichlorodifluoroethanes/alcohols & – 9014P
—water displacement – 8004P
uses/replacement difficulties/recycling etc – 5639
Tricyclodecanes
See also adamantane
cyanates groups on phenyl groups linked by – 1623P
derivatives
—acrylates, coatings – 1877P
—acrylates, copolymers – 6797P
—acrylates, copolymers, radiation-curables – 623P
—acrylates, photocurables – 2151P
substituted, fluoroalkyl groups – 8007P
Tricyclopentanes
polymerisation/thermal analysis – 5685
Triethanolamine
stabilisers, printing pastes – 9294P
Triethylene Glycol Dimethacrylate
anaerobic compsns, hydroperoxides/sulphimides/amines – 9088
polymerisation, gamma-rays doses/Tg – 5720
synthesis/characterisation – 7998
Triethylene Glycol Divinyl Ether
radiation-curables, urethanes (unsatd) & – 5432
ultraviolet-curables – 5409
Triethylenetetramine
blocking of amino groups – 44
commercial, sensitisation by amines in – 2096
curing agents, for epoxies – 4904
determination, in air – 7674
products, with carbonates (cyclic), curing agents – 9086
Trifluoroacetates
termination by, polymerisation (cationic) – 3211
Trifluoroacetic Acid
stabilisers, for driers – 68P
Trifluoroethane
phasing out, agreements – 9819
polyurethanes – 1605
Trifluoroethanols
degreasing, dichlorodifluoroethanes – 9375P
Trifluoroethyl Methacrylates
polymerisation/polymers – 1594P
Trifluoroethylene
copolymers, infrared spectroscopy (far) – 4507
Trifluoromethanesulphonates
silyl groups, initiators – 4030
Trifluoromethylacrylic Acid
esters, copolymers, synthesis/resists – 9853P
Trifluoromethylstyrenes
polymerisation (anionic), uses & – 886P
Trifluorostyrene
grafting
—on polymers, electron beams – 7333
—on tetrafluoroethylene copolymers – 8059
Triglycerides
analysis, GC – 1942
Oenothera sp, composition – 9708
Parthenium spp – 9002
reduction, borohydrides, analysis & – 2859
ultrasonics, velocity, vegetable oils & – 2926
Triglycidyl Isocyanurates
dermatitis (contact) – 9785
powder coatings, toxicology – 7778
Triisocyanates
polyurethane coatings (moisture-curable) – 8193P
prepolymers, moisture-curables – 9154P
products, with acrylics – 8150P
Trimellitic Acid Imide
piperidine groups (hindered) – 4879P
Trimellitic Anhydride
alkyds, content – 3347
immune system, antibodies/allergies – 2952
Trimesates
unsaturated, photopolymerisables – 7094P
Trimethylolpropane
esterification, kinetics/computers modelling/mechanisms – 3219
synthesis, kinetics/modelling – 8001
Trimethylolpropane Diacrylate
products, with fatty acids – 8243P
Trimethylolpropane Triacrylate
adhesives (epoxy), ureido groups/piperazine & – 1001P
Trimethylolpropane Trimethacrylate
copolymerisation, cyclisation/gelation – 6451
synthesis/characterisation – 7998
Trimont Chemicals
acquisition, by Anchor Chemicals – 5533
Trioxabicyclooctanes
groups, pendent, polymers (self-crosslinkable) – 7343
polymerisation (ring-opening), initiators – 2412
Trioxane
paint strippers, hydrocarbons/alcohols & – 9393P
Triphenylmethane Compounds
carbenium ions, co-initiators from – 94
dermatitis (contact) – 552
hydroxylated, synthesis from phenols/salicylaldehyde – 8008P
Triphenylmethane Dyes
from tris(aminophenyl)methyl with quinoid structures – 8976P
Triphenyltin Compounds
determination
—in water – 2001
—in water, analysis (trace) – 1993
Triphenyltin Fluoride
antifoulants, leaching rates required – 3508
antifoulings (water-line), rosin/polymers & – 4356
Tripropylamines
toxicology – 5372
Tripropylene Glycol Diacrylate
diluents (reactive), hexanediols replacement – 5421
ultraviolet curing, photoinitiators efficiency – 2984
Triptycenes
polycarbonates, adhesives modifiers – 8275P
Tris(hydroxyethyl) Isocyanurate
polyester-imides (modified) – 5736
synthesis – 3990P
Trisazo Compounds
dyes, synthesis/properties, blue/dichroism – 3113
sulphonated, inks (water-borne) – 9320P
Trisilacyclododecanes
synthesis/properties – 2284
Trisphenols
epoxies
— 3255P
—resists – 5478P
glycidyl ethers, products with alkanolamines – 4929P
synthesis, from phenols/salicylaldehyde – 8008P
unsaturated, epoxies – 3255P
Trithianes
polymerisation (cationic) – 2488

Tropical Conditions
algae, masonry (exterior), & control – 3526
anticorrosives, testing, accelerated/coastal natural – 9452
coatings, zinc oxide/ultraviolet resistance – 1050
plastics – 357
weathering, wood coatings, comparison – 2652
wood preservatives, performance/retention – 2718
Tubes
See also pipes, cathode-ray tubes & television tubes
cement, polyurethane coatings (two-component) – 5162P
ceramics, joints, primers for sealing – 4447P
steel
—coatings, vinyl chloride polymers etc – 1153P
—corrosion effects on adhesion – 4458
Tung Oil
raw, specifications – 8868
reaction, with phenols – 9001, 9005
Tungstates
inks (water-borne), ball-point pens – 9318P
Tungsten
complexes
—catalysts for polymerisation – 8068
—with olefins, initiators – 4900
Tungsten Compounds
photoinitiators, & photochromics therefrom – 4650P
Turbidimetry
See also nephelometry
particle size distribution, regularisation parameter – 6129
pigments (white) – 7741
surfactants (non-ionic), salts effects – 1249
Turbidity
films, reversible – 6610P
interpenetrating networks, avoidance, factors – 821
particle size distribution, ultracentrifuge/two concentrations – 1259
Turpentine
isomerised, by pyrolysis, tackifiers from – 4034P
Tyler Corp
divestments, Reliance Universal to Akzo – 7184
Typewriters
electronic, inks (semi-solid) – 1013P
Tyres
coatings – 8499P
manufacture, wastes, fillers from – 1281P

U

Ubbelohde Viscometers
See viscometers
UCB
joint ventures, radiation-curables, raw materials – 7901
UCB SA
joint ventures, with Daicel Chemical Industries – 693
Ultrafiltration
copper ions removal, via micelles – 8730
electrocoating
—& advantages/costs analysis – 2547
—to membranes (separate) – 5126P
electrocoating (cathodic)
— 2649P
—chelating agents & – 4195P
—electrodialysis & – 326P
units for, in centrifuges – 6940
water, metal ions/organics retention via micelles – 7050
Ultramarine Pigments
coated, sulphur blocking then siloxanes – 3127P
treated, polymers &, transesterification resistance – 4930P, 4931P
Ultrasonics
absorption/velocity, polymers solutions/MW – 8667
cleaning, surfactants &, treatment before – 8359P
curing monitoring – 6118
delay lines, curing monitoring – 5270
diffusion rate determination, coatings – 9744
emulsification, polymerisation & – 7307
filtration, with/without electrical fields – 3428
paint strippers & – 9397P
polymerisation presence, & proteins – 6437P
polymers – 2030
pretreatment, hazards/precautions – 5355
reactions acceleration – 3139
thermomechanical analysis – 3746
transmission, adhesives curing/drying etc – 4533
velocity
—emulsions, particle size, profiles – 2910
—vegetable oils/triglycerides – 2926
wood preservatives uptake – 5942
Ultraviolet Absorbers
benzotriazole
—phenols groups, & synthesis etc – 8010P
—phenols groups, polyfunctional, spectra – 6956
benzotriazole (unsatd), spectroscopy – 6955
benzylidenemalonates, photochemistry/concentration/efficiency – 2300
chemically-bound
— 8031P
—acrylics, pigment compsns – 3967P
—azo pigments, lightfastness – 3115P
—benzotriazole (unsatd) copolymers – 810P
—benzotriazole derivatives – 5653P
—transparent coatings, acrylics & – 3995
comparison, spectra/stabilisation/weathering etc – 3997
concentration, depth profiles, unweathered/weathered – 1505
developments, review – 7278
enamides (alkenoyl) polymers – 8022P
fillers (modified), by absorbers in gels – 3994
for polyolefins, stabilisation by – 3144
formulation, stabilisers (light) & – 2520
lasurs (water-borne), weathering – 5649
oxamides, piperidine/oxanilide groups – 1504
oxanilides – 70P
transparent coatings, acrylics &, mirrors – 3995
ultraviolet-curables, for plastics – 1308P, 1309P
Ultraviolet Curing
adhesives, visible & – 2125
automation, detectors/control – 5115
chemistry/hazards etc – 5442
combination
—with infrared (far) – 5424
—with moisture – 9854P
—with moisture, acrylic/urethanes – 3827P, 3828P
—with moisture, urethanes/hydroxylated curables – 9890P
—with other curing – 5440
—with other curing, epoxy/acrylates – 3799
—with thermal – 5406, 8753
composition, with thermal – 2149P

Ultraviolet Curing *(continued)*
costs – 5407
delayed, time after exposure – 2149P
developments, in use, equipment/wavelength/problems/examples – 9828
equipment
— 5457
—application & – 5097
—radiation intensity/temp mapping – 5434
equipment/materials, Japan – 3810
equipment/uses, wavelength/power selection – 5110
furniture (wooden), advantages/costs – 5109
grafting, to substrates – 8754
hazards – 551
high-speed, cans coatings – 5407
kinetics, FTIR (photoacoustic) – 9720
lamps
—near point source/three-dimensional objects – 5087
—types/non-electrode – 9847
lamps/materials/uses/statistics – 5416
materials/uses – 4639
modelling, photoinitiators light absorption/radicals concentration – 5417
monitoring
—FTIR – 2127
—real time, infrared spectroscopy – 1288
plants, examples/layouts – 5400
polyesters (unsatd)/styrene, parameters effects – 1290
principles/materials requirements/safety/environment etc – 8353
three-dimensional
— 5109, 5119, 5400
—equipment/health & safety – 5345
—processes/uses – 5101
ultraviolet intensity – 5455
ultraviolet intensity (low) – 5448
uses, Japan – 3797
ventilation – 5345
Ultraviolet Photoelectron Spectroscopy
See electron spectroscopy for chemical analysis
Ultraviolet Radiation
absorption
—acrylics – 7824P
—titanium dioxide (acicular) – 4849P
—transparent coatings with – 5248P
antioxidants, effects – 8019
coatings, titanium dioxide & – 2658
dosimeters
—coatings as – 1881P
—labels/colour changes – 5446
—printing inks as – 1707P
exposure
—polyethylene, biodegradation studies after – 409
—polymers (chlorinated) on zinc – 6701
exposure limits
— 2942
—documentation – 7044
hazards/exposure limits/control – 5378
inks (invisible) development – 1711P
intensity, mapping, equipment – 5434
lamps
—emissions levels/hazards – 4609
—halides/mercury in one – 5424
—types/choice/spectra – 7523
metal coatings patterns by – 2157P
polymers/dyes, oxygen (singlet) generation – 838
pressure-sensitive adhesives/self-adhesives & – 9833
pretreatment with – 5872, 5877
radiometers, formulation/lamps monitoring & – 7807
recording materials, acetylenes (polyfunctional) – 5840P, 5841P
resistance
—coatings, zinc oxide – 1050
—floors coatings – 7829P
—transparent coatings for wood – 349
—wood stains/coatings – 2665
solubilisation by, acrylics/sulphonated oximes groups – 3812
treatment with
—phosphazenes surfaces – 3314
—plastics substrates – 5110
—plastics/printability – 9385P
—pressure-sensitives stripping – 6598P
—printing plates – 6609P
wood stains &, substrates erosion under – 5986
Ultraviolet Spectra
azo compounds, visible &, amino groups effects – 1201
separation, chromatography overlapping peaks – 3698
Ultraviolet Spectroscopy
benzotriazole
—derivatives – 6955
—phenol groups, polyfunctional – 6956
books, visible &, qualitative/quantitative – 3094
equipment (proprietary), directories – 6102
isocyanatoethyl methacrylates copolymers – 1921
paper coatings, binders & – 6080
Ultraviolet Stabilisers
See 'stabilisers, ultraviolet'
Ultraviolet-curable Coatings
See also paper coatings, polyurethane coatings, & primers
abrasion-resistant compsns
—morpholine derivatives – 1320P
—phosphates (unsatd)/silanes etc – 3849P
acrylates (polyfunctional), acrylates/amino resins & – 8802P
acrylates (polyfunctional)/acrylates (fluorinated) – 1877P
acrylic acid copolymers – 7519
acrylic/urethanes
—acrylates (polyfunctional) & – 3861P
—acrylates/isocyanurates/acetals – 5492P
—contaminants effects – 5426
—from polyether-urethanes – 643P
—raw materials (residual) in – 5426
—siloxanes segments, properties – 2124
adhesion promoters, silanes/siloxanes – 637P
cans, application/properties, situation – 5407
chromatography (supercritical fluid)/FTIR – 7651
comparison, with polyurethanes – 4643
corrosion resistance, ultraviolet full depth – 7823P
curing, monitoring, FTIR – 2127
diluents (rective), vinyl ethers – 5409
electronic components
—ethylhexanediols acrylates – 3846P
—silicones (unsatd) – 7071
epoxies/flexibilisers – 2391
expansion, monomers with – 5403
floors
—abrasion etc resistance – 7829P
—removable by aq alkalis – 3862P

Ultraviolet-curable Coatings *(continued)*
for board, paint systems/application, Italy – 5118
for plastics
— 6227P
—application/curing, equipment – 5097
—coating (in-mould), primers & – 3563P
—coatings (in-mould) – 5205P
—epoxy/acrylates, adhesion/FTIR etc – 2130
—printing/stamping after – 3027P
—ultraviolet absorbers – 1308P, 1309P
for plastics (metallised), oxanilides etc – 9887P
for polycarbonates, coatings/inks over – 5430
for wood, advantages/comparison with conventional – 2987
furniture etc, materials/application – 5414
hazards/test methods – 551
hydrophilicity – 3827P, 3828P
matting agents, various/testing – 4868
Michael adducts, acrylates/amines – 2138P
mirrors, over reflective coatings – 632P
odours, reduction – 5453
optical fibres
— 4414
—acrylic/urethanes – 3005P, 4661P
—acrylic/urethanes & morpholine (unsatd) – 3026P
—acrylic/urethanes from isocyanurates – 7109P
—acrylic/urethanes from polyethers – 4649P
—ageing/alkali resistance – 7070
—epoxy/acrylates – 1300
—formulation/water effects etc, review – 5436
—hydrogen evolution/stabilisers – 7076
—hydrogen generation inhibition – 4672P
—modulus/cure temp – 5438
—requirements/application/chemistry – 5439
—stabilisers etc & – 1330P
—stripping – 3458P
—sulphur compounds/hydrogen avoidance – 9901P
—thermo-oxidation/stabilisers – 595
—ultraviolet-curables on ultraviolet-curables – 1301P
—urethanes/ureas (unsatd) – 5462P
organo-silicons, unsatd/mercapto separate – 608P
permeability, water vapour, low – 3019P
photoinitiators
—modelling light absorption/radicals concentration – 5417
—titanocenes/coumarins – 2139P
photoinitiators (proprietary), benzophenones blends – 3804
pigmented
— 5110
—curing – 5457
—infrared (far) then ultraviolet – 5424
—problems/solutions/testing – 5404
pigments manufacture from, curables/metal layers – 1468P
pipes (steel), temporary protection/curing conditions – 8753
polyenes/polyamines – 607P
polyester acrylates – 2137P
polyesters (unsatd) – 3820P
polyisobutene (unsatd) – 7077
pretreatment, corona – 316
printed circuit boards
—conformal coatings – 1295
—photoinitiators – 7116P
silicones/polymers (amide groups, halogenated) – 2779P
siloxanes (unsatd) – 2504P
stability (shelf), determination, DSC – 5333
strippable compsns, siloxanes/onium salts – 9885P
surfaces, acrylate groups (residual)/ultraviolet-curables over – 5430
thick coatings, polyesters (unsatd)/isocyanates etc – 626P
transparency, glycidyl copolymers/onium – 5413
water-borne
—benzophenones derivatives – 2176P
—for leather, polyurethanes (unsatd) – 2998
—photoinitiators – 4867
Ultraviolet-curable Compositions
See also adhesives, filling compositions, inks, 'printing inks, ultraviolet-curable' & sealers
acrylates, of methylbutanediols – 9017P
acrylic/urethanes
— 618P
—benzophenonetetracarboxylic-based, properties – 6210
adhesion promoters, silanes (unsatd) – 6423P
chemistry/hazards/pigments/matting/markets – 5442
components – 3811
components/role/radical/ionic etc – 4643
conductive coatings, photoinitiators/peroxides/polymerisables – 8766P
curing (delayed), predetermined delay, agents – 2149P
diluents (reactive), flexibilisation/rigidity – 5447
encapsulation with, light emitting diodes – 5431
epoxies (cycloaliphatic), modifiers viscosity increase – 9837
epoxy/novolacs, polyols &, parameters/properties – 5422
hot-melt coatings – 258P
hydroxystyrene polymers (modified), unsatd groups – 7328P
market (Canadian), uses – 5412
market (European) – 5410
monomers (various), properties/functionality – 596
optical fibres, acrylates/pigments etc – 9900P
organo-silicons (unsatd)/organo-silicons (mercapto) – 9855P
oxygen inhibition reduction – 9886P
phosphates (unsatd) – 4976P
photodegradation
—acrylic/urethanes – 1055
—polyesters/stabilisers – 1063
photoinitiators
—diketones/amines (unsatd, ketonic) – 605P
—initiators comparison – 2989
—phosphine oxides – 2984
—phosphine oxides, amines effects – 1286
photoinitiators/initiators blends, & coupling agents – 3860P
pigments – 4643
polymerisation (cationic) – 4905
printing (screen), screens manufacture – 8765
refractive index, polysulphides/acrylates – 9902P
release agents, siloxanes/onium – 8805P
resins for, joint ventures – 693
silanes, mercaptan groups – 3826P
siloxanes (unsatd)
— 2168P, 7118P, 8807P
—carbonates groups – 1297
siloxanes (unsatd)/mercaptans, stabilisers & – 3006P

Ultraviolet-curable Compositions *(continued)*
siloxanes (unsatd)/siloxanes (mercapto)/organo-silicons – 2169P
statistics (USA/Japan) – 5449
statistics/forecasts (Japan) – 8823
sulphonium salts, naphthylmethyl-substituted – 881P
urethanes (unsatd), from vinyl ethers – 5432
uses
—Europe – 7137
—Japan – 3797
water-borne, maleic anhydride copolymers (acrylated) – 4652P
Undecenoates
copolymerisation, with olefins – 8090
Undecenoic Acid
copolymers, ionomers, synthesis/rheology – 9647
synthesis, castor oil pyrolysis – 8998
Undercoats
anticorrosives
—epoxies/particles – 1086P
—epoxies/silica – 1085P
cashew nutshell liquid, standards – 4783
corrosion resistance/adhesion, epoxies (modified)/silica – 1799P
epoxies, thermal shock resistance – 6846P
for plastics, & electrostatic spraying over – 7598P
lacquers, standards – 4781
oleoresinous compsns, standards – 4782
oligomers/silanes – 6021P
polyketones/polysulphones/thermosetting resins – 6838P
repair painting & – 1875P
Underground
See also cables, corrosion, pipelines, pipes & tanks
coatings holidays, primers/mill scale/metals exposure – 6715
substrates (wet), cementitious coatings/silicones – 5249P
valves, anticorrosives, standards – 1440
Underground Coatings
See also pipelines (underground), pipes (underground) & tanks (underground)
Underseals
epoxies/polydienes/curing agents – 9625P
Underwater
See also water entries, cleaning (underwater) & pipelines (underwater/submarine)
adhesives
—offshore structures repair – 5041
—types/curing/advantages etc – 4211
application, epoxies/curing agents – 6836P
curing, polyurethanes (moisture-curable) – 8134
Underwater Coatings
cavitation resistance prediction – 1183
over zinc dust paints – 5907
Union Carbide Corp
acquisitions by, of Ecuatoriana de Resinas – 6302
joint ventures, silicones, cancellation – 3903
silanes/silicones, relaunch – 9949
Union Carbide do Brazil
silicones-based products, capacity doubling – 7857
Union des Fabricants de Peinture
activities – 6315
United Kingdom
statistics, handbooks – 2239
United Merchants & Manufacturers
Valchem division, acquisition, by Air Products – 2203
United Silica Industrial
silica (precipitated), plants expansion – 4708
Unperturbed Dimensions
See also radius of gyration
diethyl malonate/vinyl acetate copolymers – 5308
Unsaturation
See also double bonds
Uranium Compounds
unsaturated, polymerisation by radiation – 633P
Urea
derivatives, printing inks (water-borne) – 8294P
groups
—acrylics, polyisocyanates & – 1651P
—organo-silicon compounds – 1520P
—polyols, products with maleinised – 250P
reaction
—with cellulose – 8174
—with isocyanates, NMR – 4522
Urea Resins
See also melamine/urea resins
adhesives, for wood, standards – 3089
cross-linking agents, Mannich bases & – 8208P
methylated, modified by rosin – 7341
microencapsulation by – 8035P
modified, by furfuryl, particles, blasting – 2643P
synthesis/raw materials etc, review – 3280
Urea-Aldehyde Condensates
synthesis, non-aromatics/aromatics solubility – 170P
Urea-Formaldehyde
See also phenol/urea-formaldehyde
Urea-Formaldehyde Resins
adhesives
—plants (planned), Malaysia – 1375
—standards – 1407
determination – 9680
formaldehyde in, determination, bound hydrolysis – 6954
modified, by ammonia, adhesives (water-borne) – 6586P
particles, paper coatings – 1843P
properties – 4956
water-bornes (high-solids) – 7389
Ureas
antifoulings, copper compounds & – 8460P
curing accelerators (latent) – 6504P
curing agents, for epoxies, powder coatings – 9246
diluents (reactive)
— 6544P
—surface activity/high-solids coatings – 3346P
epoxy compsns, dicarboxylic acids & – 1570P
fluorinated, adhesives (epoxy) – 8283P
hydrolysis – 8124
powder coatings, epoxies & – 1681
thixotropic agents, from amines blends – 8020P
unsaturated, copolymers, air-drying coatings – 5792P
Ureido Groups
epoxy esters, isocyanates groups (blocked) & – 5032P
monomers, adhesion (wet) & – 2830
polyesters, adhesives (epoxy) – 1001P
Uretdione Groups
curing/resins/uses – 2460
Urethane Alkyds
See also alkyd/urethanes
Urethane Groups
polyols, products with maleinised – 250P

Urethane Oligomers
high-solids coatings, as modifiers – 161
soluble, for water-bornes/solvent-bornes – 2442
water-bornes, as modifiers – 161
Urethane Prepolymers
adhesives (hot-melt, moisture-curable) – 1695P
adhesives (hot-melt)
—ethylene copolymers & – 6591P
—reactive – 8269P
blocked, stability (storage)/water-reactive – 175P
from diphenylmethane diisocyanates, stabilisers & – 1621P
from tackifiers etc, adhesives (hot-melt) – 2575P
halogenated, coatings – 1111P
HPLC, derivatisation, urea piperazine – 6100
isocyanate groups (tertiary), from asymmetric diisocyanates – 2470P
polyesters (unsatd) modified – 1690
primers, phenolics/halogenated polymers & – 1079P
primers (moisture-curable) – 4330P
products, with diaminobenzoic – 6503P
sealants (fast-curing), catalysts & – 5073P
sealants (moisture-curable), catalysts & – 2611P
Urethane-ureas
See also polyurethane-ureas
Urethanes
See also acrylic/urethanes, alkyd/urethanes & epoxy/urethanes
curing, amines/catalysts – 1625P
difunctional, cycloaliphatic rings, not ring – 168P
emulsifiers, water-bornes, polyisocyanates & – 8209P
formation
—catalysts, kinetics – 5750
—monitoring – 1235
from amines/carbonates (cyclic), diluents (reactive) – 7380P
from aminoalcohols – 50P
from carbamates/olefins – 167P
hydrolysis – 8124
hydroxyl groups (blocked) – 5752P
precursors, curing agents (mixed) & – 9876P, 9877P
radiation-curables, diluents (reactive) & – 2142P
synthesis, companies acquisition – 7890
thickeners, silicate paints, & cellulose ethers – 58
ultraviolet-curables, moisture curing & – 9890P
unsaturated
—copolymers, air-drying coatings – 5792P
—copolymers, stability (storage), coatings etc – 9143P
—from vinyl ethers (hydroxylated) – 5432
—modified by diazoquinones, copolymers – 3834P, 3835P
—products polyethers, radiation-curables – 7814P
Uretonimines
coatings, in situ reaction – 4424P
products, with diisocyanates/alcohols etc, curing agents – 5018P
Urine
dimethylacetamide metabolites – 4504
metals (heavy), water loading & – 7752
muconic acid in, monitoring (biological) – 4500
phenol in, benzene exposure – 2865
toluene metabolites – 7669, 7684, 7761
trichloroethane in, monitoring (biological) – 2081
trihydroxybenzenes in, benzene exposure – 9690
xylene metabolites – 7761
Urushi Varnishes
decorative effects, first layer cut patterns – 5227P
durability/particle structure/mimicking – 2314
modified
—by epichlorohydrin – 4149
—cashew nutshell liquid condensates – 3159P
surfaces, structure – 2314
Urushiol
polymerisation – 2314
products, with epichlorohydrin – 4149

V

Vacuum Components
powder coatings, plants – 4265
Vacuum Metallisation
See metallisation (vacuum)
Valerolactones
products, with epoxy compounds – 1562
substituted, polymers, acrylic/urethanes – 4661P
Valine
substituted, fluorinated, esters, insects repellents – 1813P
Valves
activation, developments/automation/condition monitoring – 5079
ball, & materials/problems/future – 296
developments/proprietary/products – 7447
filling equipment – 7065
underground, anticorrosives, standards – 1440
Vanadates
ammonium salts (quaternary), synthesis – 1518P
corrosion inhibitors, phosphates & – 378
from ammonium/pyridinium – 5657P
wash primers (two-component) – 5172P
Vanadium
AAS (graphite furnace) – 3672
complexes, hydrogen peroxide photoactivation – 2281
toxicology/environment, review – 5384
Vanadium Compounds
maximum allowable concentrations – 4612
sealers, over conversion coatings – 8356P
Vanadium Driers
See driers
Vanadium Pentoxide
coatings, stress corrosion cracking control – 2681
gels, polymerisation (oxidative) in situ – 8047
wash primers (two-component) – 5172P
Vandalism
See also graffiti
Vapocure
speciality coatings, MRF Ltd & – 4725
Vapocure Taiwan Co
acquisition, by Shinto Paint Chemical Co – 3916
Vapour Pressure Osmometry
– 1961
Vapours
adsorption, on dusts, & inhalation – 4564
aromatics, detection, piezoelectricity, crystals/coatings – 6064
curing by
—amines, presence mercaptans/thiourethanes – 898P
—boats painting – 6641
—joint ventures – 6291
—polyurethane coatings – 9392P
—polyurethanes – 4154
—polyurethanes, two layers individual cure – 9567P

Vapours *(continued)*
—spraying with the coating – 9339
—Swedish companies – 7887
—technology licensing – 3055
deposition from
—fluoropolymers (reduced MW) sources – 4283P
—ketene acetals – 2646P
—plastics pretreatment before – 7510P
—siloxanes formation, silanes/atomic oxygen – 3008P
organic
—buildings (domestic), exposure – 3784
—solubility in polymers – 1245
sampling
—absorbents recycling/voltammetry – 3665
—detection/determination, detector tubes – 1428
—diffusive samplers, length-of-stain – 1433
Varnishes
See also impregnation varnishes
cyclohexanone polymers – 4910
definitions/terms – 3941
electronic components, diamines/anhydrides etc products – 1864P
for copper, epoxies etc, bonding & – 6823P, 6824P
for wood, market surveys/statistics/companies etc, UK – 8959
non-volatiles, determination – 8894
Vauxhall Cars
paint shops, investment – 3898
VEB Kombinat Lacke und Farben
interviews/profiles/plans – 6322
Vegetable Oils
analysis – 1942
blends, analysis, GC, matrix inversion – 3638
coatings, antique effect – 332P
condensed, coatings for plastics – 1841P
Cupressus spp – 7253
evaporators (falling-film) – 3426
fatty acid esters, synthesis from, catalysts – 3133
fatty acids, extraction by alcohols – 9000
heated, fatty acids (cyclic groups) from – 7256
Hibiscus spp – 6395
Oenothera sp, composition – 9708
Parinari sp – 3398
Parthenium, leaves/seeds – 9002
Plectranthus – 4853
products, with suberic, elastomers (toughened) – 8997
reduction, to fatty alcohols – 6397
statistics, various countries, & forecasts – 661
statistics (world), production/trade – 3046
ultrasonics, velocity, triglycerides & – 2926
Vehicles, Motor
adhesives
—manufacturers (German) joint ventures – 7163
—polyurethanes, part pre-cured – 5051
adhesives (epoxy), corrosion resistance – 4223P
adhesives/sealers etc, viscosity tests – 9999
anticorrosives, dry-on-wet/wet-on-wet – 7506P
basecoat/clear
—both cross-linkables – 9623P
—stabilisers losses – 8013
chip resistance
—epoxies (modified)/carboxylated – 5247P
—plastisols/electrocoating – 1717P
—polyesterurethane-ureas – 460P
—testing/impactor shape/stresses etc – 1902
—thinner coatings possible – 1161P
coatings
—acrylics/dispersants (polymeric)/isocyanates – 1861P
—benzotriazole derivatives – 8010P
—developments/volatiles (org) etc – 5218
—ethylene carbonate groups – 134P
—graft copolymers/cross-linking agents – 1549P
—history – 8182
—hydroxylics/metal compounds/anhydrides – 940P
—intermediate, against polishing dusts – 8538P
—isoindolinone pigments – 16P
—market/paint manufacturers involved – 5524
—statistics/paint manufacturers (US etc)/developments – 1360
—titanium dioxide – 756
coatings/trends/acquisitions etc – 7152
coil coatings, limitations/welding – 3569
components, painting (contract), Canada, plants – 8347
composites, metals/plastics, anticorrosives between – 6742P
construction equipment, electrocoating, plants 3433
corrosion control, maintenance procedures – 4320
electrocoating
— 341P
—voltage application – 1755P
electrocoating (cathodic)
—phosphating (low zinc) before – 9343
—ultrafiltration, costs analysis – 2547
engines, coatings, manufacturers (German) – 2212
exhaust systems
—coatings, epoxies – 6746P
—heat-resistant coatings – 6814P
fast-curing compsns, polymers (hydroxylic)/vinyl ethers – 6825P
filler surfacer compsns, water-bornes – 1664P
finishing
—developments forecasts – 6813
—dust extraction, design/factors – 7049
—equipment, German companies – 6631
—paint manufacturers' facilities – 699
—plants (French) – 6659
—respiratory protection – 7009
hazardous materials, motor industry &, guides – 571
heat-curables, siloxanes (ladder), forming – 1170P
high-solids coatings, tinting, systems (proprietary) – 3566
manufacture, health & safety, plants (UK) – 9761
manufacturers, laboratories/responses to trends – 9953
manufacturers (US), coatings/research – 8182
metallic finishes (water-borne), polyurethanes – 2773P
paint manufacturers, German in UK – 7852
paint manufacturers (US) – 5563
paint strippers – 8378P
painting
—conveyors (power-and-free) – 323
—materials/procedures – 6809
—paints filtration – 1035
paints, developments – 2765
phosphating
—monitoring – 9340
—zinc phosphate – 5869
—zinc phosphate, lower temp – 334P

Vehicles, Motor *(continued)*
plastics &
—coatings (two-component) – 2418P
—coatings for both metals & – 3571
—mouldings, paintability – 1117P
—painting, plants – 1031
—problems/coatings – 9220
polyurethane coatings (two-component) – 6016P
powder coatings
—comparison with others – 2562
—market (US) – 6244
primers, chip resistance – 463P
refinishing
—acrylics – 856P, 1576P
—coatings/requirements/uses – 7601
—developments forecasts – 6813
—materials (proprietary) – 7009
—moisture-curables, adhesion – 8528P
—moisture-curables, silyl groups/diesters – 213P
—paint manufacturers (Dutch) – 7182
repair painting
—paint manufacturers (Dutch) – 9938
—polyurethanes/pot-life – 211P
sealants, silicons, volatiles analysis – 2868
soft-feel coatings – 5196
spraying
—overspray, water treatment – 7052, 7054
—qualifications/EEC countries (various) – 8852
spraying (low-pressure, high-volume) – 1728
steel (metal-coated)/epoxies – 6752P
steel (zinc-coated), chromating/coatings – 3496P
suspension units, springs, electrocoating – 8342
topcoats, fluoropolymers – 3571
trailers, chemical transport, corrosion causes/control – 2674
ultraviolet absorbers, oxamides – 1504
undersides
—anticorrosives, asphalts/petroleum sulphonates/fillers etc – 4346P
—polyurethane coatings (two-component) – 2701P
vibration, coatings against – 2801P
water-bornes
— 9220
—electrostatic spraying – 3450P
wiper-blade frames, powder coatings application – 9367
zinc alloys, phosphating – 1039
Ventilation
air flow (workplace), determination – 7916
confined spaces, oxygen deficiency removal, experimental/data analysis – 4583
guidance, extraction/recirculation/energy/monitoring – 7759
handbook sections – 7220
laboratories, powders handling – 5353
occupational, review – 2117
printing, isopropanol exposure reduction – 5283
railway stock, during bags loading – 5350
solvents – 8848
spray booths
—fans failure, hatches difficult opening – 2050
—theory/filters cleaning & changing – 315
ultrviolet curing – 5345
Venting
explosions
— 2061, 2062
—panels/insulation (thermal) – 2056
—vent dimensions – 2094
—vents (proprietary), air cushion – 2051
reactors, phthalic anhydride synthesis – 9774
Verband der Druckfarbenindustrie
structure/policies/activities, interviews – 4730
Verband der Lackindustrie
public relations activities – 1382
Verdigris
synthetic
—formation on copper – 8318P
—formation on steel – 8317P
Vereingte Pulverlackfabriken GmbH
combination, with Resicoat – 4710
Vermiculite
concrete, on steel, fire resistance – 4378
fired, coatings against vibration – 2801P
Vermont Talc Inc
acquisition, by Cyprus Minerals – 4683
Vernolic Acid
from Hibiscus spp – 6395
from Plectranthus spp – 4853
Vernonia spp
oils, products with suberic, elastomers (toughened) – 8997
Vesicles
dyes in, printing inks (water-borne) – 280P
particles (core/shell), via swelling by bases – 7251P, 7252P
particles with, polyesters (unsatd)/monomers etc – 7965P
polymers particles with, drying – 3980P
printing inks (water-borne), dyes in – 3405P
Vessels
See also tanks
pressure, corrosion inhibitors – 400P
Vibration
coatings against
—automobiles underseals – 9605P
—vermiculite (fired)/resins – 2801P
mastics against, polyvinyl acetate/nepheline/graphite – 9328P
sensory thresholds, painters/neuropathy – 7010
Video Recorders
See also cameras (video)
Vinyl Acetate
copolymerisation
—miniemulsions, co-surfactants role – 3228
—reactors in series – 8105P
—solvents effects – 5702
—with itaconic – 5706
copolymerisation (alternating), Lewis acids – 8064
dispersions, manufacture, plants expansions – 3895
electropolymerisation, styrene & – 5696
emulsion polymerisation
— 6450
—automation (semi), safe/optimum – 8093
—comonomers/presence polymers – 5715
—continuous, MWD models/GPC – 9079
—grafting on colloids (protective) – 8078
—particle size determination – 6138
—presence polyvinyl alcohol/hydroxyl – 8109P
emulsion polymerisation (emulsifier-free), comonomers/pressure polymers – 5715
emulsion polymerisation (seeded) – 3230
emulsion polymerisation (surfactant-free) – 6450
interpenetrating networks – 279P
latices, interfaces – 3621
microemulsions, phase diagrams/surfactants/co-surfactants – 6957

Vinyl Acetate *(continued)*
photopolymerisation
—peroxides effects – 2983
—thioxanthones/benzil/amines – 3798
polymerisation
—inhibition periods, pressure & – 117
—persulphates/hydroxyethylcellulose/ethoxylates interactions – 7308
—water effects & copolymerisation – 5701
—ylides – 3240
prices – 3045
reactivity ratios – 3222
sampling, samplers evaluation, determination & – 6890
suspension polymerisation – 2363
Vinyl Acetate Copolymers
carboxylated, transesterification – 5703
of acetals (allyl carbamate-terminated) – 6502
of fumarates, synthesis – 1578P
of malonates, solution properties – 5308
of vinylidene fluoride, synthesis/characterisation – 7334
of vinylpyrrolidone, adhesives (hot-melt) – 8260
particles (core/shell) – 9064
pressure-sensitive adhesives (water-borne) – 4216
prices – 3045
synthesis, presence surfactants (unsatd) – 6564P
Vinyl Acetate Polymers
adhesives, standards – 1405
hydrolysed
—partially, photoresists – 4669P, 4670P
—partially, powder coatings – 263P
latices, stability, emulsifiers/sulphonated copolymers – 6446
printing inks (screen, water-borne) – 4227P
water colours – 5029P
Vinyl Acetate/Butyl Acrylate Copolymers
synthesis, grafting to emulsifier during – 6904
Vinyl Alcohol Copolymers
azobenzene groups, monolayers – 7000
epoxy groups
—amines &, water resistance – 4926P
—paper coatings – 5202P
of acrylates – 1569P
of acrylates (fluorinated) – 6485P
of vinyl propionate, water absorption/synthesis route effects – 6964
photoresists, water-developable – 2158P
photosensitive compsns, glycerol acrylates – 2159P
pyrrolidones groups – 443P
synthesis – 7337P
Vinyl Alcohol Polymers
adhesion promoters, silanes & – 8032P
colloids (protective)
— 3166
—emulsions & – 6484P
dispersants (polymeric), acrylics & – 4002P
emulsifiers (polymeric), grafting to/FTIR – 6904
hydrophobic groups (pendent) – 121P
modified
—by aldehydes – 1174P
—methods/properties/uses – 110
photocurables, for printing screens – 7813P
polymerisation presence, factors – 157
silyl groups, synthesis/hydrolysis steps – 1643P
Vinyl Butyl Ethers
products, with rosin – 147P
Vinyl Chloride
epidemiology
— 554
—review – 558
monitoring (personal), carbon (activated) – 1435
polymerisation
—presence epoxies emulsions – 975P
—presence linoleic, chain transfer – 5731
—presence sulphosuccinic monoamides – 1717P
—review – 885
polymerisation (precipitation) – 3172
suspension polymerisation
—monitoring/tracers/GC – 1599
—review – 2363
—suspension media viscosity – 4091
—vinyl alcohol polymers effects – 157
synthesis
—plants (planned), Brazil – 7877
—plants ,US, sale failed – 9958
—plants, Brazil – 3890
water pollution, regulations (US) – 3082
Vinyl Chloride Copolymers
adhesives, acrylics & – 9263P
antifoulings – 7570
epoxy groups, powder coatings – 9250P
hydroxylated, polyurethanes – 209
of maleimides, conductive coatings – 3594P
of vinyl isobutyl ether, primers – 5242P
phosphates groups (pendent) – 4951P
recording materials (magnetic) – 8310P
release agents, isocyanates & – 3386P
unsaturated, vinyl esters groups (pendent) – 3841P
Vinyl Chloride Monomer
epidemiology – 8722
synthesis, plants, joint ventures – 690
Vinyl Chloride Polymers
cans coatings, epoxy/phenolics & – 4449P
chalking resistance etc, copper compounds – 8431P
coatings
—on adhesives on metals, fluoropolymers over – 6751P
—over adhesives (acrylic)/primers – 1153P
graft copolymers, microgels (core/shell) – 6151
heat-resistant coatings, for wires – 1824P
plastisols
—adhesion promoters &, topcoats over – 9327P
—migration resistance etc – 4249P
—strippers for – 344P
release agents, acids (org) & – 2793P
synthesis/properties/uses – 885
water-bornes, epoxies & – 975P
Vinyl Chloride/Vinyl Acetate Copolymers
adhesives, polyurethanes & – 3380P
plasticisers, electrochemical measurements/permeability – 5137
saponification
—kinetics, modelling – 8118
—processes – 7337P
thermogravimetry – 7647
Vinyl Chloride/Vinylidene Chloride Copolymers
permeability/diffusion etc in, esters – 8700
Vinyl Ester Copolymers
fluorinated compounds &, water repellency – 240P
of ethylene/vinyl acetate, latices – 5730P
pressure-sensitive adhesives
— 6596P
—for plastics – 8281P
Vinyl Ester Polymers
curing, agents/ageing/properties – 5714

Vinyl Ester Polymers *(continued)*
hydrolysis, various vinyl esters – 105
Vinyl Esters
branched, proprietary, polymers/coatings, properties – 2406
emulsion polymerisation, colloids (protective) – 5726P
grafting, on polyurethanes, optional hydrolysis etc – 9148P
groups, pendent, radiation-curables – 3841P
polymers, from epoxy/urethanes (unsatd) – 3300P
synthesis, emissions/mercury, treatment – 4618
Vinyl Ethers
difunctional, of alkenes (hydroxylated) – 1146P
diluents (reactive) – 5409
fast-curing compsns, polymers (hydroxylic) & – 6825P
fluorinated
—(poly)ether chains (fluorinated) – 4949P
—copolymers, curables – 9199P
—copolymers, modified by alcohols (unsatd) – 4666P
—of fluorinated glycol fluoroalkyl ethers – 9015P
groups, pendent, hydroxystyrene polymers (etherified) – 7328P
hydroxylated, urethanes (unsatd) from – 5432
interpenetrating networks (semi-), cellulose esters & – 2136P
photopolymerisation, phosphine oxides/iodonium – 5456
polyfunctional, unsatd/epoxy groups, cross-linking – 8492P
polymerisation, hydrogen iodide/iodine, kinetics/mechanisms – 3225
polymerisation (cationic), review – 2393
polymers
—electrocoating (cathodic), resins & – 6560P
—synthesis/properties/adhesives/uses – 8232
synthesis, from alcohols from acetals/ketals – 6401P
Vinyl Ethyl Ether
copolymerisation, kinetics – 846
Vinyl Halides
suspension polymerisation, particles treatment after – 1603P
Vinyl Isobutyl Ether
copolymers
—polyurethane coatings – 2529P
—primers – 5242P
polymerisation (cationic)
—initiators/activators/living – 7311
—organo-aluminium/trifluoroacetates – 9087
polymerisation (living), organo-aluminium/adducts – 5678
Vinyl Methyl Ether
polymers
—blends with polystyrene, NMR – 1931
—blends, interactions/NMR studies – 1976
Vinyl Methyl Ketone
arylation, by iodonium – 2286
copolymerisation, with cyanoacrylates – 9131
grafting, on polyisoprene – 2388
polymerisation, reactivities/end groups – 1557
Vinyl Propionate Copolymers
water absorption, synthesis route effects – 6964
Vinylamines
polymers, products unsatd epoxy – 5758P
Vinylbenzyl Ethers
of ethers/polyethers, cyanates/unsatd compounds & – 2466P
of orthoesters (bicyclic) – 8011P
Vinylcarbazoles
copolymers, photoresists – 1326P
photopolymerisation (solid-state) – 3818
polymerisation (cationic), review – 2459
Vinylcyclohexanes
copolymers, transparent coatings – 1165P
Vinylidene Chloride
grafting, on polyvinyl alcohol – 9066
Vinylidene Chloride Copolymers
autophoretic coatings, post-treatment – 5786P
barrier coatings – 5984P
coatings, before inks, crystallinity/FTIR – 9675
flame-retardant coatings (water-borne) – 4389P, 4390P
heat-sealable coatings, over primers – 1844P
of butadiene, epoxidation/coatings – 9197
of dienes etc, paper coatings – 4404P
of methyl methacrylate, DSC/transitions – 1257
recording materials (magnetic) – 8306P
Vinylidene Chloride Polymers
coatings, epoxies & – 155P
water-bornes, for plastics – 4403P
Vinylidene Dichloride
See vinylidene chloride and (possibly also) dichloroethylene
Vinylidene Fluoride Copolymers
antioxidants/hydrogen fluoride absorbers & – 3147
blends, with polyvinylidene fluoride – 5734
of vinyl acetate, synthesis/characterisation – 7334
treatment with, stone – 8412
Vinylidene Fluoride Polymers
infrared spectroscopy (far) – 4507
unsaturated, curables, hydroxylics etc & – 4155P
Vinylnaphthalene
copolymers, resists – 1306P
products, with methylenebis(alkyl carbonates) – 168P
Vinylphenols
See also hydroxystyrene
polymers, synthesis via deblocking – 5697
Vinylpyridenes
block copolymers, particles (core/shell)/cross-linking – 8670
Vinylpyridines
block copolymers
—adsorption, NMR (deuterium) – 6966
—electron microscopy, element specific – 6984
—micelles (core/shell) – 1253
copolymers
—photoresists – 1326P
—purification, supercritical fluids – 2481P
—ultraviolet radiation absorption – 7824P
oligomers (living), addition to, factors – 4099
polymerisation (anionic)
—stereochemistry – 2328
—with acrylates – 4103
substituted, polymers, adhesives – 3379P
Vinylpyrrolidone
grafting, on silica (modified) – 8123
photopolymerisables, acrylates & – 2131
photopolymerisation, acrylates, & synergism – 3000
plasma polymerisation – 5744
Vinylpyrrolidone Copolymers
antifoulings (self-polishing) – 3537P, 3538P
catalysts (phase transfer) – 2285

Vinylpyrrolidone Copolymers *(continued)*
dispersants (polymeric) – 781P
of fluoro-olefins – 9480P
of vinyl acetate, adhesives (hot-melt) – 8260
water in, state, below/above freezing – 2889
Vinyltoluene
See methylstyrene
Violins
coatings
—pigments/alcohol-based/spirit-based layers, dyes – 8560P
—shellac on colour coats on shellac – 4454P
old, finishes, ground analysis – 9658
Viscoelasticity
adhesives – 1189
coatings, review – 5271
diffusion &, simulation (numerical) – 4565
emulsion paints, thickeners/application behaviour – 2307
epoxy/novolacs, from novolacs (four-nucleii) – 9643
equations (constitutive), Legendre-Fenchel transformation – 6875
flow &, in cylinders/bottom driven – 3633
fractals – 7714
graft copolymers, styrene/macromonomers – 498
interpenetrating networks
—acrylics/urethanes – 2828
—fillers effects – 1192
—phase separation degree – 497
polyester-urethanes (aliphatic) – 9743
polyesters (unsatd), from wastes – 2840
polymers, reacting systems – 6036
polymers (gel-forming) – 493
polymers (linear)/polymers (cross-linked), ternary systems – 6874
polymers fluids, theory/elastic strain/modelling – 5268
polymers/tackifiers – 500
polysaccharides – 1898
polyurethanes, during curing/final – 3627
pressure-sensitive adhesives
— 8584
—temp/peel force/peel rate – 5045
sealants – 1189
theory, differential operator law coefficients – 1889
theory/review – 1888
Viscoelasticity, Dynamic
carboxymethylcellulose, salts effects, aq systems – 2834
determination, polymers, equipment – 6865
Viscometers
See also rheometers
ball, magnetic field driven, inductive detectors – 8588
calibration, importance – 6872
capillary
—automation, GPC detectors – 1903
—forced flow, GPC – 1904
—forced flow/pressure transducers – 1904
comparison, low shear rate range – 8578
Couette, wall slip corrections – 5265
detectors, for GPC etc – 5275
LARAY, use/comparison with Weissenberg – 1895
membranes, pores, as exclusion chromatography – 1920
rotary
—cone/plate, viscosity (high-shear) by – 8922
—shear rates (high), paints etc, standards – 4778
Viscometry
book chapters – 1900
dispersions, dispersion monitoring – 4462
polyvinyl acetate (branched) – 2002
transient flow – 4469
Viscosity
acrylates (polyfunctional) – 6214
adhesives, tests – 9999
adhesives (epoxy), ageing – 5044
adhesives (hot-melt), reduced at working temp – 2574P
adhesives (moisture-curable) – 3377
control
—adhesives (water-borne) – 6586P
—thermo-reversibility – 8608P
data analysis, curvature problems avoidance – 8595
determination
—fluidised beds – 6639
—Ford cup – 8888
—shear rates (high) – 4778
—viscometers (rotary) – 8922
diethyl malonate/vinyl acetate copolymers – 5308
dihydroxypropylcellulose/boric acid complexes – 3331
drying oils, during drying, networks formation – 9644
during polymerisation – 6859
epoxies
—during curing – 4918
—during curing, correlation other properties – 6977
—during curing, dielectric properties & – 6988
epoxy/novolacs, curing/modelling – 6866
extensional
—dynamic uniaxial, water-bornes – 6881
—rheometers (converging flow) – 9640
heat-curables, during curing – 5270
high-solids, acrylics, activation energies – 5267
high-solids coatings, reduction, by silanes/titanates – 4169P
loss, emulsion paints, enzymes – 7388
low
—adhesives (epoxy), nitrile rubber – 5048
—epoxies/phosphites – 4080P
—epoxy/acrylates – 5428
Mark-Kuhn-Houwink constants, from GPC (microcolumn) – 6929
nitrile rubber, & additives/solids content – 6868
oils, viscosity/temp relationship – 7635
paper coatings, foaming & – 2752
plastisols, modelling – 3618
polyamic acids, solvents/secondary solvents – 2479P
polyethers (fluorinated) – 882
polymers
—dilute/semi-dilute/entangled – 1894
—MW superposition plots – 1182
—prediction/modelling – 2824
polystyrene, solutions/extensional flow/thickening (apparent) – 496
polyvinyl acetate
—latices, control by synthesis conditions – 3624
—solvents/temp/concentration – 5264
polyvinyl alcohol, control – 843
radiation-curables, diluents (reactive) & – 9848
sealers, tests – 9999
siloxanes, cyclic/linear – 6131

Viscosity *(continued)*
solvents/resins/gellants, solvents/resins effects - 3625
suspensions, theory – 8583
suspensions (concentrated), theory/modelling – 3636
ultraviolet-curables
—epoxies (cycloaliphatic), increase – 9837
—stability (storage) – 5333
water-bornes, increase on dilution – 3354P
xanthan gum, purification/salts effects – 3616
Viscosity, Intrinsic
acrylic acid copolymers, pH/Mark-Houwink/structure – 8595
copolymers, equations, MW/composition – 1901
determination
—& Mark-Houwink constants – 9657
—from specific, equations coefficients MWD effects – 9641
—MW (very high), adsorption-entanglement effects – 8579
determination/data interpretation – 1900
extrapolation, K(theta) from below theta – 8592
polymers, minima with temp – 4470
polymers (branched) – 7686
polymers/solvent blends – 2042
polystyrene, standard samples/plot breaks/GPC – 1952
polyvinylpyridine, solvent blends/anomalies – 3750
theory, solvents (poor), collapse & – 1184
tributyltin acrylate copolymers – 6161
xanthan gum, MW/ionic strength – 7643
Vision
See also colour vision
amines effects on – 548
Visual Display Units
colour monitors, colours calibration – 5254
EEC directives (proposed) – 4754
Vitrification
See also gelation
Volatiles
determination
—in polymers – 8957
—sealants, silicones – 2868
exposure, skin, monitoring – 6901
from autoxidation – 786
monitoring – 1224
phenolics, before/after curing – 3473
plastics, loss, determination – 1410
polyimides curing – 9251
polymers, thermal analysis/flame ionisation/MS – 3714
replacement (partial), polyethers non-volatile process conditions – 6402P
Volatiles, Organic
adhesives (water-borne) – 5043
coatings, content various proprietary – 8381
compliance
—aerospace coatings – 9576
—aircraft coatings – 9572
content, stoving & – 580
control, paints/Los Angeles/regulations/plans – 8736
decorative coatings, limits/USA – 8849
determination
—detectors/mobile units – 7664
—GC after adsorption – 1427
—in water, GC – 2000
—in water, GC/serial detectors – 5288
—printing inks, & control – 4225
electrostatic spraying, transfer efficiencies – 6661
emissions
—actual stoving temp v EPA methods – 580
—limits, regulations (US), proposals – 7201
—quantification/reduction – 4614
—regulations (US) – 7193
—regulations (US), California – 7794
—regulations (US)/painting & – 7209
extraction, from water, stripping/GC – 8621
inhalation, women, risks to suckling child – 4603
limitation, regulations/products – 7152
low
—aerospace – 1131
—alkyds, liquid crystals groups – 8190
—coatings, aerospace – 1127, 1128
—epoxies advancement in situ – 8095
maintenance paints, limits (Californian) – 9968
paint industry (US) & – 2511
partition coefficients, tissues/water/blood/air – 7771
phenolics, before/after curing – 3473
pollution, levels USA cities – 7051
reduction
—finishing, vehicles (motor) – 5218
—measures/developments – 4885
regulations (US), navy compliance activities – 5134
sampling
—carbon (activated) – 1426
—carbon (activated), desorption after, sealed vials – 5276
—diffusive samplers – 1431
sampling/GC, complex sources identification – 6900
stoving, from substrates, biistering & – 6789
suspensions, polyamines/maleimides – 9155P
treatment, micro-organisms – 586
wood finishes, information provision – 2761
Volatilisation
See also evaporation & thermal volatilisation analysis
Voltammetry
adsorptive cathodic stripping, metals (trace) – 533
copper, electrodes (modified) – 6932
electrochemical cells, for both sampling & – 2870
lead, electrodes (modified) – 6932
microemulsions (oil-in-water) – 7713
vapours/absorbents, sampling/absorbents recycling – 3665
Volume
free
—polystyrene, thermal cycling/positronium – 6079
—positronium annihilation – 6092
Volume Fraction
determination, magnetic pigments – 4553
VP Resicoat GmbH
formation, from Resicoat/Vereinigte Pulverlackfabriken – 4710

W

Wacker Chemie GmbH
vinyl acetate, dispersions, plants expansions 3895
Wallpapers
adhesives, prepastes, heat resistance – 5832P, 5833P

Wallpapers *(continued)*
adhesives (water-borne)
—optical brighteners etc – 981P
—permeability/applicability wet substrates – 5822P
plastics, coatings – 422P
printing inks (water-borne) – 9291
Walls
adhesives, labelling/certification – 8950
antistatic coatings – 473P
coatings
—acrylics, before topcoats – 8549P
—antifungal activity – 6765P
—biocides, ion-exchange resins – 3536P
—electronic/medical etc industries & – 473P
concrete, coatings, extensibility etc – 7622P
coverings
—adhesives, standards – 9997
—coatings without toxic/irritant smoke – 1835P
—statistics (UK) – 6268
—topcoats, stain resistance – 6001P
exterior
—'Which' reports – 6805
—coatings, stains from substrates avoidance – 476P
insulation (thermal), polyurethane foam/coatings, flame retardance – 5193P
moisture, damage/mechanisms/coatings – 358
panels, galvanised steel, coil coatings – 5214
primers (water-borne) – 248P
radiation-curables – 628P
solventless coatings, epoxies/polyamine-amides – 2564
thixotropic coatings, polyurethanes etc – 8535P
water-bornes, powders (dispersible) for – 8559P
Ward White
divestments, Ripolin factory/Jacoa outlets – 3908
Warehouses
fires, regulations (UK)/recommendations/case histories – 3080
paint manufacturers (UK) – 6301
Wash Primers
aluminium tripolyphosphate (modified) – 6713
two-component, polymers/vanadium compounds etc – 5172P
Washability
determination, standards – 8934
standards – 7922
Washing
See also cleaning & rinsing
equipment, performance improvement – 304
jet, pressurised water, decorating – 5857
Waste Water
analysis
—AAS – 1906
—aromatics (polycyclic) – 3650, 3651
chromium (hexavalent), treatment – 9806
chromium in, determination, trivalent/hexavalent – 3700
fatty acids distillation – 3134
filtration (micro-), into fibres (hollow), cross-flow – 588
formaldehyde in, treatment – 5389
metals (heavy) ions removal – 7059P
painting, treatment/recycling – 579
painting/pretreatment plants, treatment – 5391
regulations (German) – 7210
regulations (US) – 708
rinsing, treatment/recycling – 9802
styrene, treatment, micro-organisms – 3781
treatment
—adsorbents, clays (modified) – 8738
—effluents &, proprietary – 6624
—plants, concrete, protection – 9478
—solvents removal – 8726
ultrafiltration, phenols/metal ions removal – 7050
Wastes
See also hazardous wastes, toxic wastes, waste water & individual materials
aluminium oxide manufacture – 9224P
automobiles manufacture, treatment etc – 6200
caprolactam purification, pigments from – 4834P
cellulose diacetate synthesis, insulation from – 1281P
chemical, incineration, plants, factors/considerations – 7782
control, UK government/committee views – 8857
controlled, transport, carriers registration – 8859
copper mining, pigments (orange) – 8991P
cords/fibres manufacture, polyamides from – 6834P
disposal, regulations (UK)/guides – 8960
disposal etc, EEC directives amendment, proposals – 2221
disposal/treatment, licensing, UK – 1392
electroplating, iron oxide from – 7790
emulsion paints, utilisation – 7793
ethanol production, varnishes – 3582P
ethyl acrylate synthesis, recovery acrylates etc – 7060P
ethylhexanols still residues, uses – 9009
hydrochloric acid, from pulp mills, use – 3104
incineration – 8739
industrial, regulations (Spanish) – 9989
isoprene synthesis, coatings, alkyds & – 7802
methyl methacrylate synthesis, treatment – 9931
municipal, combustion, power plants corrosion control – 1760
paint manufacture
—costs/wastes prevention – 3876
—material loss causes/reduction – 3878
—materials extraction – 8745P
—solvents recovery/wastes minimisation – 3877
paint stripping, lead-containing paints – 3439
paints, disposal, regulations (Italian) – 7194
phenols synthesis wastes, use – 2979P
plastics, recycling, US measures/alternatives to – 9812
polyesters
—depolymerisation, polyesters (unsatd) from – 2840
—transesterification with polyesters, coatings – 1280P
polyethylene synthesis, adhesives – 9288P
polyvinyl acetate synthesis, adhesives – 9288P
printing inks, return by printers, regulations (US) – 4624
sanding, disposal – 6630
sludges, organics/inorganics mixtures, treatment – 2978P
sodium hyposulphite synthesis, zinc oxide from – 7973P
solidification – 7045
solvents (chlorinated), treatment/regulations – 7046
solvents in, exposure/neuropathy – 4592
special, transport (transfrontier), regulations (UK) – 1391
styrene/butadiene copolymers synthesis – 7796

Wastes *(continued)*
sugars production, pigments (black) – 4836P
sulphates, treatment with calcium oxide – 7061P, 7062P
tanks, containment structures, barrier coatings – 7603
tar acids, pigment pastes – 7800
titanium dioxide manufacture
—EEC directives – 7912, 8856
—EEC directives (proposed) – 4742
—measures – 7234
—recycling – 3107, 7895, 9808
—recycling/neutralisation – 7048
treatment
—fungi (immobilised) – 8729
—in situ, by organisms – 9822
tyres manufacture, fillers from – 1281P
wood
—acetic acid &, plastics modification – 9825P
—benzylation, thermoplastic products – 9810
wood processing, coatings – 1282P
Watches
abrasion-resistant coatings, silica etc – 1167P
Water
See also underwater entries, 'water, sea' and waste water
AAS (furnace) – 7692
absorbents, polyurethane coatings – 169P
absorption
—coatings, deliberate – 2788P
—coatings, powders (hygroscopic) – 8550P
—epoxies, moduli (ultrasonic) & – 3629
—epoxies, structure & – 3711
—maleic anhydride copolymers – 8112P
—panels (wood), & dimensions changes – 4773
—polymers, road marking compsns – 9612P
—polyurethane coatings etc – 6009P
—polyurethane compsns – 4972P
—vinyl propionate copolymers – 6964
adhesion, to polymers, work of – 6982
adhesives &, diffusion/strains changes – 4565
adsorption, from toluene, drying – 2283
aerosols, particle size determination – 3745
analysis, review – 7680
boiling
—cans, smoothness retention – 6847P
—coatings resistant to – 4348P
—resistance, lubricating coatings – 1175P
chemisorption (dissociative), on titanium – 2004
chlorine in, determination – 3646
coatings &, adhesion loss – 3469
coatings against, barrier over hygroscopic over lower – 6802
coatings removal by, graffiti control – 2759
contamination by, curing agents, effects – 4052
cooling
—corrosion inhibitors – 7534
—corrosion inhibitors, films from/Auger/mechanisms – 9464
—fouling control, chlorine/bromides – 9525P
copper ions, removal, micelles ultrafiltration – 8730
curing by, powder coatings – 979P
determination
—in organics, infrared – 6896
—in polymers etc, dehydration/GC – 5382
—in solvents etc – 9671
—in solvents, GC/detectors – 2883
—in solvents, on-line/potentiometry – 1960
—paints etc, Karl Fischer – 8916
—sampling/expert systems – 1194
diffusion
—coatings – 6696
—epoxies – 3711
—in coatings, calculations – 1237
—in polymers, modelling – 4555
—in polymers, modelling/experiments – 4554
—nitrile rubber/maleimides – 1264
displacement, fluorocarbons/alcohols/surfactants – 8004P
drinking
—bituminous coatings – 4776
—emissions/effluents, regulations (US), various chemicals – 3082
—pipes, anticorrosives – 4342P
—pipes, linings – 4440P, 6018P
epoxies &, uptake/diffusion/Fick's laws – 2935
extraction, of organics from, salts effects – 8623
formaldehyde in, pyridine/methanol, NMR – 3667
galvanised steel &, adhesives adhesion & – 373
hot
—curing by, temporary intervening layers – 6662P
—pipes/coatings, epoxies – 7617P
—polymers/fillers, whitening resistance – 5627P
—resistance, anticorrosives, epoxies/hot liquid precuring – 6749P
—resistance, cans coatings – 4196P
—resistance, formaldehyde condensates/imidazolidones – 2422P
—resistance, polyolefins/adsorbents – 3489P
immersion, coatings/acoustic emissions – 6997
in acrylics, DSC/transitions below zero deg C – 9685
interactions, with glass fibres (coated) – 2913
lead in
—detection, chromates solutions cloudiness – 3705P
—determination, pg/fg levels – 1215
metals (heavy) in, determination – 1212
migration, pipeline coatings, electrochemical measurements – 2669
optical fibres/ultraviolet-curables & – 5436
organics in, determination, extraction/HPLC/MS – 1913
organo-tins in
—AAS (graphite furnace) – 9672
—determination – 2001
permeability
—coatings on wood – 9755
—low, anticorrosives (radiation-curable) – 3019P
—low, electrical insulation – 6772P
—networks, acrylates/linking blocks/hydratable units – 6480P
persulphates in, determination – 1228
photochemistry – 8388
pipes (copper), coatings – 4436P
purification, methods for laboratories – 7659
removal, moisture-curables manufacture – 7378
sulphates in, determination – 4531
surface tension
—cosolvents & – 4538
—determination – 8686
swelling by, saccharides (unsatd) copolymers – 2315P
tanks, interiors, tar/urethanes – 1850
tanks (storage), corrosion control – 391
Tg & – 2038

Water *(continued)*
treatment
—hydroxyl generation – 8388
—plants, concrete, protection – 9478
uptake
—anticorrosives (water-borne) – 6708
—coatings – 6965
—monitoring, dielectric properties – 2014
—nitrile rubber (carboxylated)/maleimides – 1264
—polymers, models/predictions/experiments – 2022
—printing inks (lithographic) – 3708
uptake/loss, coatings, balance, parameters – 2906
vinylpyrrolidone copolymers &, state, below/above freezing – 2889
volatiles (org) in
—determination, GC – 2000
—GC/serial detectors – 5288
Water Act 1989
Control of Pollution (Consents for Discharges etc) (Secretary of State Functions) Regulations – 9975
Control of Pollution (Discharges by National Rivers Authority) Regulations – 9977
Water Colours
artists, not staining clothing – 8545P
inks (erasable) etc containing – 4244P
pigments/calcium carbonate (modified) – 1704P
polymers/alkaline compounds/amines – 1705P
vinyl acetate polymers, water-soluble dyes etc & – 5029P
Water Pollutants
aromatics (polycyclic), determination, GC/MS – 3650, 3651
chlorinated compounds, effluents limits – 1384
determination, extraction/HPLC/MS – 1913
extraction, for analysis – 2857
liquid chromatography – 2880
metals (heavy), determination – 1212
organic compounds, removal, membranes/evaporation – 8732
solvents, removal, membranes/evaporation – 8726
volatiles (org)
—determination, GC – 5288
—stripping/GC – 8621
Water Pollution
See also pollution (marine)
control
—effluents/regulations (UK) – 9976
—regulations (UK)/consents – 9975, 9977
—regulations (US), various chemicals – 3082
—Rhine, organisations/measures – 9809
—treatment methods/manuals etc – 8735
—UK, environmental quality standards/Red List – 9801
—UK/clubs/manuals/regulations/research centres – 9945
corrosion inhibitors – 7534
ground water, solvents (halogenated) – 6197
monitoring
—plants (chemical), control centres – 9820
—test organisms use/complex mixtures – 9814
organo-tins, sources/fate/determination – 4613
statistics (UK) – 4689
tributyltin compounds, plants (estuarine) & – 5387
UK, HM Inspectorate of Pollution – 5585
wastes (hazardous), EEC directives/UK circulars – 7914
Water Repellency
acrylics (fluorinated), polymerisation presence polyesters – 1600P
anticorrosives (water-borne), fluoroalkyl groups – 9501P
basecoat/clear, NADs – 1868P
chloroacrylates (fluorinated) – 2163P
concrete, coatings/sealers – 7546
epoxies, silicones particles & – 3596P
epoxies (fluorinated)/epoxies – 124P
epoxies/fluorocarbons (functional) – 4948P
polyamides (fluorinated) – 931P
polyesters (fluorinated) – 930P
polyether-esters (fluorinated), from spiro – 6459P
polyethylene (oxidised)/chlorosilanes products – 8438P
pretreatment, for wood – 8516
siloxanes/polymers products – 4130P
vinyl ester copolymers/fluorinated compounds – 240P
vinyl polymers (fluorinated) – 8121P
water-bornes
— 240P
—emulsion polymers/fluoropolymers – 7392P
—siloxanes (unsatd) – 4133P
Water Repellents
acrylamide polymers (fluorinated) – 4094P
acrylics, alpha-halo, pendent phenylhexaisopropyl – 9124P
acrylics (fluorinated, modified) – 8792P
acrylics (fluorinated)/aminocarboxylics – 5996P
antifoulings, siloxanes (unsatd) polymers & – 8463P
carbonates (difunctional), silyl groups – 199P
detection – 8908
epoxy compounds (fluorinated) polymers – 4248P
for wood
—isocyanates/chromium(III), FTIR – 3647
—substrates/coatings performance & – 2665
—testing – 2609
impregnation, silicate paints over – 363
lubricating coatings – 3499P
silanes/siloxanes/silicones – 5902
silicone oils, solvent blends/other compounds & – 6748P
siloxanes – 8434P
trifluoromethylstyrenes polymers – 886P
wood preservatives, toxicants/hygroscopic agents etc & – 3544P
wood sidings treatment – 1056
wood stains, wood erosion resistance – 5986
Water Resistance
– 4212
acrylics, zirconium compounds & – 8201
adhesives – 4221P
adhesives (acrylic) – 3384P
adhesives (epoxy)/adhesion promoters, bond failure tests – 267
barrier coatings, polyethylene/plasticisers – 7610P
coatings
—latices (cross-linked) – 961P
—substrates from, for photosensitives – 4238P
—tyres – 8499P
—vinyl chloride polymers over adhesives/primers – 1153P
coatings (intermediate), for walls, acrylics – 8549P
emulsion paints – 5024P, 8224P
epoxies/graft copolymers – 1589P
epoxy/novolacs – 3250P
hydrophilicity & – 9613P

Water Resistance *(continued)*
iron oxide (micaceous, modified) – 3131P
nacreous pigments, mica (coated) – 28P, 29P
novolacs (fluorinated) – 3321P, 4950P
paper coatings
— 442P
—binders/modified vinyl alcohol copolymers – 5202P
—starch – 4396
—styrene/butadiene copolymers – 4397
photopolymerisables – 7828P
polysaccharides/polyvinyl alcohol (acetoacetylated) – 3332P
polyurethane coatings (water-borne) – 5789P
polyvinyl butyral (modified) – 9078
primers, & waterproof coatings – 5242P
printing inks (ink jet) – 274P
siloxanes/silanes – 8168P
siloxanes/zirconium compounds/silyl groups – 8437P
surfactants (copolymerised) & – 2546
water-bornes
— 9240P
—acrylic/urethanes copolymers – 974P
—acrylics (cross-linked) – 1670P
—acrylics/chlorinated rubber – 248P
—acrylics/hydrazides – 6552P
—acrylics/urethanes – 233P
—for polymers foams – 1847P
—isocyanates (blocked)/polymers – 3350P
—latices (cross-linked) – 7394P
—polyesters (soluble)/polyesters (hydrophobic) products – 964P
—polymers/silicates/aluminophosphates – 3356P
—surfactants (unsatd) – 9234P
—vinyl alcohol copolymers/epoxy groups/amines – 4926P
writing compsns – 8303P
Water Vapour
permeability
—adhesives (water-borne) – 5822P
—anticorrosives (water-borne) – 6708
—barrier coatings, acrylics/terpene resins – 7391P
—coatings against – 2789P
—coatings on wood – 9755
—determination – 6344
—micropores/other systems – 6124
—selectivity, glycol ethers polymers – 5704
Water, Sea
anaerobic, antifoulings discolouration – 5943
metals (trace) in, determination – 532
monitoring, ships/automation/voltammetry – 533
organo-tins in, determination – 1993
types/corrosion mechanisms/test environments – 5911
Water-borne Coatings
See also electrocoating, electrodeposition, emulsion paints, gloss paints, matt coatings & individual types of coatings e.g. anticorrosive – 4885
acrylics
—latices (monodisperse) – 8197
—particles (cross-linked) – 1670P
—synthesis presence carboxylated – 4176P
acrylics (carboxylated)
— 3351P
—fatty acids/macromonomers modified – 956P
acrylics (self-crosslinkable)/formaldehyde resins etc – 1662P
acrylics compatibility with sealants – 4245
acrylics/insoluble polymers – 4189P
acrylics/melamines, & basecoats from – 1666P
acrylics/polyesters, cosolvents low – 9237P
adhesion, to plastics/metals, tests/results – 7642
advantages/problems/avoidance/testing – 2539
aerospace – 1131, 9576
air-drying compsns
—alkyds (modified) – 5796P
—butadiene polymers (modified) – 950P
—copolymers, gel fraction/residual unsaturation – 6567P
—driers, traditional/water-emulsifiables – 52
—emulsion polymers/air-drying stabilisers – 5792P
alkyds
—comparison solvent-bornes – 7384
—trimellitic anhydride content – 3347
aluminium pigments, reaction inhibition, phosphites – 6390P
ammonium silicates – 7383
application, brushes – 4280
application (wet-on-wet), silyl layers & – 9588P
automobiles
—basecoats, acrylics – 9216
—basecoats, microgels – 5785
basecoats
—acrylics, synthesis (multistage) – 4174P
—for basecoat/clear, thickeners – 6561P
binders, pigment binding capacities – 2545
binders/non-film former – 232P
biocides – 427P
biocides (proprietary), & tests/toxicology – 2728
blocking resistance – 6551P
book chapters
— 7224
—review – 6548
building materials, aluminophosphates/wastes etc – 9224P
cans
—acrylics/amino resins etc – 4197P
—acrylics/polyethers – 4196P
—epoxies (modified), by amino acids – 2544
—epoxies (modified)/polymers – 238P
—epoxies/polymeric dispersants – 5031P
—exteriors/interiors, epoxies/acrylics – 9219
—history/companies etc – 8202
—microgels, epoxies/carboxylated – 9225P
—polymerisation presence epoxies – 975P
cellulose ethers/oxides – 468P
coagulation, critical coagulant concentration – 6120
coalescing agents, efficiency/proprietary – 2537
compatibility, with sealants – 4247
containers (tube-like) containing – 9221P
corrosion inhibitors, enzymes, in-can/applied coatings – 2682
cross-linking – 6548
cross-linking agents, polycarbodiimides – 1633P
curing, faster – 1658
dairies, epoxies – 6545
developments – 2510, 7484
dicyclopentadiene polymers (maleinised) – 4079P
dipropylene glycol monobutyl ether – 7992
electromagnetic shielding – 8527P
electrostatic spraying – 3450P, 4275
emissions
—avoidance, binders (various) studies – 2545
—review – 7795
—testing – 7785

Water-borne Coatings *(continued)*
emulsifiers, for converting conventional resins – 219
emulsifiers (polymeric, unsatd) – 4020P
environment &, problems – 4172
epoxies
— 1771, 6548
—history etc – 221
epoxies (linear) – 2540
epoxies (linear)/modifiers, esterification (partial) – 6575P
epoxies (modified) – 251P, 1669P, 9239P
epoxies/polyurethane-ureas – 8222P
epoxy/acrylates (modified) – 7397P
epoxy/amine adducts (modified) – 971P
epoxy/polyesters, from polyesters (carboxylated) – 4180P
epoxy/urethanes – 1673P
ethylene/vinyl acetate copolymers (hydrolysed) – 2560P
ethylene/vinyl acetate copolymers (saponified) – 3352P
ethylene/vinyl chloride copolymers – 3348
ethylhydroxyethylcellulose – 3996
exterior, silicones – 2491
facades, silicones – 8205
fast-drying
—latices/micaceous titanium – 6816P
—pigments/binders – 9240P
filler surfacer compsns, polyether-urethanes – 1664P
flexibility, pigments (polymeric) – 952P
floors
—acrylics/urethanes – 233P
—testing – 8912
flow control agents
—microparticles – 6415P
—phenolics – 3275P
—siloxanes/polyethers – 62P
—types – 7282
flow control agents/colloids (protective) – 3149P
fluoropolymers/acrylics – 4952P
foams, collapse/smooth coatings – 9565P
food industry, epoxies – 9215
for aluminium
—acrylamide copolymers – 1668P
—hydrophilicity/corrosion resistance – 963P, 1081P
for concrete
—polysulphides – 1855
—repair with mortars & – 2764
for glass fibres – 3592P
for hardboard, sidings – 6688
for leather – 5216
for metals, foils, nitrocellulose – 7396P
for plastics
— 5194
—present/future – 6790
for polymers foams – 1847P
for rubber, polymers (anionic)/salts – 8494P
for wood
—acrylics (carboxylated) – 1661P
—acrylics/weather resistance – 2665
—dip coating, mixed systems – 5010
—penetration, alkyds/maleinised oils etc – 7390P
—sidings – 1056
—solvent-bornes & – 6684
—sulphurous acid immersion effects – 4325
—testing – 2687
frost resistance, petroleum resins/butyl rubber – 951P
glycoluril derivatives/treated copolymers – 4184P
graft copolymers, polyolefins/carboxylics – 5191P
heat exchangers, ion-exchange resins etc – 1672P
high-solids
—cans, acrylics/polyesters/amino resins – 3357P
—monomers/two polyvinyl alcohol – 244P
—urea resins – 7389
hydrophilicity, acrylamide copolymers – 962P
ionomers, polymers (carboxylated) blends – 8203
latices, particles (cross-linked) – 961P
latices (core/shell), acrylonitrile copolymers – 8221P
latices (cross-linked)
—fine particles – 5023P
—ultrafine – 7394P
levelling agents, polyether-urethanes – 1617P
manufacture, processes (two-stage) – 9233P
marine environment, algae control – 423P
microgels – 817
microparticles, blends, stabilisation, groups/units – 6568P, 6569P
microparticles/xanthan gum/binders – 6559P
over chromium hydroxide on zinc-coated – 397P
over photoresists, protection against masks – 8796P
overspray, water wash treatment, flotation – 2974
packaging, versus overprint varnishes (ultraviolet-curable) – 4632
paint defects, case histories/recommendations – 5007
particles (fine/negative charge)/negative charge precursors – 5790P
peel strength, surfactants types effects – 8607
phosphates/dichromates/aluminium (dissolved)/polyethers – 4329P
phosphogypsum, etc – 5022P
pigment compsns, manufacture – 1485P
pigments (org, treated), by surfactants – 1460
pigments (polymeric)/binders – 234P
pigments/hydrosols/dispersants (polymeric) – 4179P
polyamides, solubilisation by alkanolamines – 6565P
polyamides/fragrance – 8214P
polybutadiene/phenolics – 231P
polyester-amides (sulphonated)/acetylacetonates – 1663P
polyesters, from polyesters (hydroxylated)/wastes – 1280P
polyesters (sulphonated)/acetylacetonates – 1663P
polyesters (sulphonated)/amino resins – 3353P
polymerisation for
—presence acrylics (fluorinated) – 7393P
—presence fluoropolymers – 7392P
—presence polyurethanes – 6566P
—presence titanium compounds – 8210P
polymers (carboxylated)/polyurethanes – 4188P
polymers (unsatd)/emulsifiers – 8200
polymers/carbonyl groups/hydrazides (polyfunctional) – 6553P
polymethacrylic acid, epoxies powders & – 7559P
polyurethane-ureas/epoxies – 5026P
polyurethanes, transparent over – 8223P
polyurethanes (carboxylated), ammonium – 230P
polyurethanes/polymers – 9230P
porosity, determination – 6958
powder coatings over, dry-on-wet – 5235P

Water-borne Coatings *(continued)*
powders & solutions of polymers – 2550, 6572P
powders dispersible to form – 1667P
printability
—printing (transfer) acceptance – 245P
—thermal transfer, polyesters – 9628P
propanediols ethers – 7992
properties/application/future – 5782
properties/comparison solvent-bornes – 1660
proprietary – 3901
raw materials, problems – 4674
recording materials, before disazo – 1016P
recording materials (magnetic) – 1712P
redispersibility period on application – 1663P
review – 4991
roads, acrylics/urethanes – 233P
silanes, silica/cosolvents/surfactants & – 955P
silanes/powders/acids – 2703P
silicones – 9172
siloxanes – 2491
siloxanes (unsatd) – 4133P
siloxanes/polymers (water-soluble) for – 1676P
solubility parameters – 7701
solvents, evaporation/modelling – 1248
spraying, applicable humidity range – 957P
styrene/butadiene copolymers (modified) – 5006, 5012
thermosetting
—acrylics (self-crosslinkable) – 6562P
—alkyd/urethanes, curing, faster – 1658
—epoxies/amines/thermoplastics/cosolvents – 9226P
—epoxy phosphates/polymers (hydroxylic) – 9227P
—epoxy/polyesters – 226P
thickeners, polygalactomannans (modified) – 2508P
thickeners (associative) – 948
thickeners (associative)/surfactants – 799
thixotropic agents
—polymers (carboxylated) as – 4000P
—polysaccharides/aminosilanes products – 4001P
—titanium chelates – 5659P
thixotropy, thick films – 4173P
three-component, epoxies, application, plants – 6632
titanium dioxide, grades selection/properties – 1461
two-pack
—acrylics etc, one coat – 6558P
—epoxies, food industry – 5989
—situation/binders/acetoacetates/unsatd acrylics – 5009
types/properties – 948
urethane oligomers
— 2442
—as modifiers – 161
use, move towards – 8184
vehicles (motor) – 9220
vinyl acetate copolymers, synthesis presence surfactants (unsatd) – 6564P
vinyl alcohol polymers/silanes – 8032P
viscometry, viscometers comparison – 8578
walls, powders (dispersible) for – 8559P
water resistance
— 9240P
—acrylic/urethanes copolymers – 974P
—acrylics/hydrazides – 6552P
—acrylics/urethanes – 233P
—alkyds/paint manufacture – 8226P
—polyesters (soluble)/polyesters (hydrophobic) products – 964P
water uptake/diffusion – 6965
window-frames (wooden) – 5011
zinc oxide – 1050

Water-borne Compositions
See also individual products, e.g, adhesives (water-borne) & 'printing inks, water-borne'
acrylic/urethanes, blends/reacted – 2534
acrylics, latices (fine), stability etc – 4074P, 4075P
air-drying compsns, alkyds (modified) – 4191P
alkyd/melamines, pigment electrophoretic mobility – 2911
alkyds
—cosolvents, glycol ethers/alcohols – 9010
—factors/HLB/surfactants – 220
amino resins, zwitterions groups – 286P
ascorbic acid/ferrous compounds/aldehydes – 2553P
binders, saponification resistance – 218, 5779
biocides, nitropropanediols (brominated) – 3510
chitosan derivatives – 2313
electrical insulation
—casein/fluoropolymers/latices etc – 5187P
—waxes etc/welding etc – 6774P
epoxies (modified), by amines/hydroxyl/thio/sulphonamides – 878P
epoxy/amine adducts – 4929P
film formation, emulsifiers fate – 4535
graft copolymers, polyesters (unsatd)/acrylates – 4182P
impregnants, window-frames – 5011
isocyanates, emulsifiers (polymeric) & – 7347P
isocyanates (blocked)/polymers – 3350P
melamine resins (sulphonated) – 8143P
oligoesters – 7385
photoresists, printing (screen) stencils – 4669P, 4670P
photosensitivity, bleaching by radiation – 1311P
polyamides, blends – 6573P
polyesters (unsatd), modification for – 2395
polyisocyanates (self-emulsifiable) – 9149P
polyisocyanates/emulsifiers – 8209P
polymerisation for, presence polymers – 2559P
polyols (urea etc groups)/maleinised products – 250P
polysaccharides – 8179P
polyvinyl acetate, coupling agents etc & – 8288P
resoles, alcohols as modifiers – 2421P
silicones, surfactants blends & – 5788P
viscosity, increase on dilution – 3354P
water repellency, polymers/fluorinated compsns – 240P
water resistance, vinyl alcohol copolymers/epoxy groups/amines – 4926P

Water-bornes Coatings
dispersants (polymeric), acrylics, acid functional – 3152P

Water-glass
See also sodium silicate
adhesives (acrylic) – 7422P
coatings
—for aluminium, post-treatment – 9611P
—over water-bornes on aluminium – 962P
emulsion paints – 8224P
fire-resistant coatings – 6788P
solutions, structure – 7703
surfactants & – 9021

Water-reducible Coatings
See electrocoating, electrodeposition & water-borne coatings
Water-repellent Coatings
acrylics/silanes – 480P
copolymers, fluoroalkyl groups/silyl groups adhesion – 1878P
fluoropolymers/acrylics/fluorinated – 1785P
silicones/fluorinated hydrolysable silicones – 9581P
Water-soluble Polymers
acrylics
—from piperazine acrylates (quaternised) – 906P
—synthesis, joint ventures – 9940
branched from ammonium (quaternary, unsatd) – 1509P
chromatography (hydrodynamic) – 514
dihydroxypropylcellulose – 3331
graft copolymers, polyvinyl alcohol/vinylidene chloride – 9066
insolubilisation, by ultraviolet, pendent groups decomposition – 9841
phosphazenes (sulphonated) – 4123
photochromicity, spiro comonomers – 7300P
powders, from siloxanes & – 1676P
synthesis, joint ventures dissolution – 7868
Watermarks
printing inks – 9306P
Waterproof Adhesives
See adhesives
Waterproof Coatings
for concrete, polyurethanes/coal tar/clays etc – 1168P
formulation, optimisation/statistical analysis – 2515
siloxanes (unsatd) copolymers – 8446P
swimming pools, polybutadiene/isocyanates etc – 466P
water-bornes, siloxanes/alkali resistance – 249P
Waterproofing
acrylics/inorg powders etc – 7612P
agents, silicones – 5922
asphalts, dams/reservoirs – 2766
asphalts/polyols, emulsions – 8172P
bitumens/polypropylene – 9500P
butyl rubber, shale/polyethylene waxes etc & – 288P
fluosilicates – 6732
sheets, bonding to concrete etc – 9289P
silanes/acid scavengers – 7561P
water-bornes, siloxanes/silicones/copolymers – 4352P
Watts Blake Bearne & Co
shares in, transfer to German – 6294
Wattyl Ltd
products/philosophy/locations etc – 3902
Waxes
See also candellila, carnauba, Japan, lac, montan, paraffin & petrolatum wax, peat & polyethylene waxes, petrolatum & beeswax
abrasives &, waxes in scratches – 1743P
additives, incorporation/properties – 8012
adhesives (hot-melt), block copolymers &, compatibility – 3374
anticorrosives
—automobiles – 4339P
—transparency improvement – 406P
antifoulings
—siloxanes (unsatd) polymers & – 8465P, 8470P
—siloxanes etc (unsatd) polymers & – 8466P, 8468P, 8469P, 8471P
chromatography (supercritical fluid)/MS – 4497
coatings, polyesters (unsatd)/monomers & – 154P
coil coatings, polyesters & – 4156P
corrosion control, agricultural equipment – 9460
crayons, water-soluble compsns – 9313P
dyes &, wood penetration – 2717
electrocoating
—gloss (reduced) – 5017P
—multilayered coatings, polymers & – 959P
emulsions, paper coatings, properties/mechanisms – 6792
GC – 4492
grafting, with maleic, self-emulsification – 1553P
inks, recording (heat transfer) – 2596P
microcrystalline, strippable coatings – 1087P
micronised, proprietary, uses in paints/inks – 2277
moisture-curables, silicones/silyl groups & – 214P
over paints (wet), excess removal – 7505P
oxidised
—anticorrosives (thermosetting) – 5170P
—strippable coatings – 1087P
paintings, encaustic, Rome etc – 935
powders, manufacture, explosions, studies/measures – 2061
recording materials (heat-sensitive), printing plates – 6613P
repair painting, thermoplastics & – 1164P
silicones &, lubricants – 4453P, 5030P
transfer materials (thermal) – 8311P
water-bornes, electrical insulation – 6774P
zinc dust paints, no solvents – 395P
Wear Resistance
– 744
coatings
—for plastics – 1846P
—printing (ink jet) nozzles, around orifice – 9583P
determination, pin-on-drum – 2823
epoxies (modified), polysulphides chains – 1882P
heat-curables, for steel, polymers particles – 8609P
magnetic tapes, ferric oxide dispersions – 9316P
phosphate coatings – 9373P
phosphonites – 1134
road marking compsns – 8885
treatment for, plasma polymers – 1890
Weather
See also climate
painting, guidelines – 2633
Weather Resistance
acrylates/siloxanes (unsatd) – 9559P
acrylic/urethanes – 9160P
acrylics, from dicyclohexylpropanes (fluorinated) – 1494P
acrylics/fumarates copolymers – 5938P
acrylics/polyisocyanates, acrylics in – 9484P
acrylics/siloxanes/isocyanates – 8155
additives, block copolymers, siloxanes – 6422P
alkyds, from glycidyl butylbenzoates etc – 2702P
basecoat/clear
—NADs – 1868P
—wet-on-wet, polymers particles – 9491P
butyl rubber, shale/polyethylene waxes etc – 288P
cellulose (modified) – 2708P
cellulose derivatives – 2509P
cellulose derivatives (modified) – 4144P
coatings
—directories (US) – 8381
—for plastics – 1840P, 9554P
—for stone, fluoropolymers – 1788P
—for wood – 6684
—manufacturers (Australian), buy-out bids – 1379

Weather Resistance *(continued)*
—pipes from concrete – 3491P
—tetrafluoroethylene copolymers (hydroxylated) – 1790P
coatings/treatments, wood substrates – 1802P
copolymers, blends, solubility parameters/phase separation – 3497P
electrocoating (cathodic)/basecoat/clear, lamellar pigments – 9490P
epoxies
— 3252P
—silicon compounds/basic nitrogen & – 3500P
epoxies/isocyanates – 2699P
epoxies/siloxanes, chelates/borates & – 1806P
epoxy silicones – 1177P
factors to consider – 2684
fast-curing coatings, epoxies/acrylates etc – 6757P
fluoropolymers
— 883, 2439P, 9480P
—from fluoro-olefins/macromonomers – 8120P
fluoropolymers/acrylics – 8428P
fluoropolymers/acrylics/fluorinated – 1785P
fluoropolymers/polymers (carboxylated)/epoxy compounds – 2776P
fluoropolymers/silyl isocyanates – 5225P
graft copolymers/stabilisers – 5163P
heat-curables
—for aluminium – 1143P
—for steel – 8609P
iron oxide (coated) – 3130P
iron oxide (micaceous, modified) – 3131P
isocyanates/mercaptans – 7365P
matt coatings, for hardboard – 6688
metal powders on semiconductives on non-metallics – 1784P
metallic finishes – 1867P
mica (coated), by titanium dioxide – 2275P
microporous coatings – 6124
moisture-curables
—for plastics – 9550P
—isocyanates groups (pendent) – 8548P
—polymers/alkoxides etc products – 2704P
—siloxanes (unsatd) copolymers – 945P
NADs, dispersants (polymeric)/silyl groups – 9209P
petroleum resins – 1552P
phosphazenes (unsatd) – 4432P
photocurables
—epoxy compounds (unsatd) etc – 3854P
—for plastics – 1308P, 1309P
pigments (polymeric) – 8966
plastisols – 1718P
polyester acrylates – 2431P
polyethers (unsatd)/unsatd compounds etc – 861P
polyisobutylene/siloxanes (Si-H) products – 9178P
polymers (chlorinated)/copper compounds – 8431P
polymers (hydroxylic)/amino resins/sulphonamides – 9497P
polyurethanes, for plastics – 9544
powder coatings
—acrylics/polyesters products – 1688P
—polyesters – 7404
—polyesters/glycidyl esters – 4204P
—vinyl alcohol copolymers – 263P
prediction, nitroxides/photoinitiation rates for – 411
primers, application conditions & – 1727
quantification, ratings/survival analysis – 1761
radiation-curables, acrylics (modified) – 8792P
silanes condensates/silica/acids – 5940P
siloxanes/fluoropolymers – 3490P
titanium dioxide – 2658
transparent coatings
— 1165P, 1166P
—for plastics – 3562P
—for stainless – 5177P
—for wood – 349
—siloxanes etc – 462P
water-bornes
—acrylics (self-crosslinkable) – 6562P
—acrylics, primers/topcoats all – 2665
—dispersants (polymeric) – 7393P

Weathering
acoustic emissions – 6997
air pollutants
—laboratory tests – 8404
—weathering (natural) – 8426
alkyds, surfaces changes, ESCA/electron microscopy etc – 2694
anticorrosives (water-borne), moisture resistance & – 6708
asbestos cement, cleaning/painting/biocides after – 8338
coatings
—aircraft – 5146
—for plastics – 5096
—metals substrates/factors – 9399
corrosion (filiform), stimulation – 2725
cracking/flaking & – 1779
duplex system, adhesion/corrosion, factors – 7532
early detection, FTIR (photoacoustic) – 9720
early evaluation, ESR, prediction – 9455
emulsion paints, sulphur dioxide, extraction studies – 4326
ESR measurements & – 8416
factors/durability/coatings against – 6721
intumescent coatings – 5968
lasurs (water-borne), ultraviolet absorbers & – 5649
maintenance coatings, testing/performance prediction – 7518
monitoring, chemical changes, prediction durability – 9427
pigments (polymeric) – 8966
plastics, tropical conditions – 357
polyesters, radicals trapping/ESR – 9455
processes/stabilisers/pigments, review – 8416
spotting, FTIR – 4524
stabilisers (light), amines (hindered), losses on – 6408
steel (zinc-coated)/electrocoating, disbonding/corrosion – 5159, 5160
substrates/coatings, & protection, books – 743
transparent coatings, substrates staining resistance – 6744P
ultraviolet absorbers depth profiles & – 1505
wood, restoration – 302
wood (coated)
— 2652
—weathered substrates – 8421
wood stains, substrates erosion under – 5986

Weathering, Accelerated
acrylic/melamines, gloss retention/chemical etc changes – 5910
aircraft – 9447
alkyds, comparison with natural – 2694
anticorrosive pigments
— 9424
—ion exchange – 758

Weathering, Accelerated *(continued)*
anticorrosives, for tropical – 9452
before painting, but after treatment – 1284
chemical changes (early) – 9427
coatings, for aluminium, pretreatment & – 6711
correlation, with natural – 5142
corrosion, rate, equations – 5155
corrosion (scab) – 1781
cycles
—automobiles manufacturers – 5153
—test chambers (patented), including immersion – 9470
equipment operation, standards – 8874, 8875, 8876
equipment/procedures, standards – 5594
galvanised steel/coatings – 8420
humidity cycles/corrosive dips – 1414
immersion (cyclic) – 9430
iron oxide (micaceous, synthetic) – 750
marine (coastal) simulation, sand/salt – 5904
melamine resins/polymers, chemistry – 8425
methods
— 1680, 8416
—& comparison with natural – 1780
moisture absorption/conductivity (electrical) – 9431
plastisols, on galvanised – 5900
polarisation (cathodic)/scribes – 2667
polyvinyl chloride – 5901
primers, degradation processes – 6705
probability procedures, service life prediction etc – 8410
sodium chloride immersion, continuous versus cyclic – 7535
stabilisers (light), amines (hindered), losses – 8013
standards – 1416
tests, condensation/temp difference/light (sun) simulation – 8420
titanium dioxide – 8386
ultraviolet lamps, types/choice/spectra – 7523
water-bornes, formulation & – 2673
zinc silicate paints – 359
zinc/silicate paints, topcoats (various) – 2666
Weathering, Artificial
conferences, papers – 3951
equipment, fluorescent lamps, RH/temp & – 2685
standards – 6346
Weathering, Natural
accelerated
— 1783
—impedance spectroscopy & – 2663
acrylic/melamines, chemistry – 8425
alkyd/melamines, chemistry – 8425
alkyds
—comparison with accelerated – 2694
—over contaminants on primers – 353
anticorrosive pigments
— 9424
—ion exchange – 758
chemical changes (early) – 9427
coatings, for aluminium, pretreatment & – 6711
coatings/salts (residual) contaminants – 4312
correlation, with accelerated – 5142
corrosion, depth/rate, equations – 5155
furniture (garden), coatings/wood damage – 1066
lasurs, standards – 2230
metals (coated), marine/industrial/sea water/burial – 1773
pipeline coatings, standards – 8867
planning – 1766, 2660
plastisols
—depth profiles/thickness, durability prediction – 2897
—on galvanised – 5900
polyvinyl chloride
— 5901
—photostabilisation/review – 6699
prediction, weathering (accelerated) – 8410
primers
—degradation processes – 6705
—various/electrochemical measurements & – 6693
procedures – 1783
samples from, testing methods – 4303
sites, Germany (East), climate – 6738
sites characterisation, standards – 1418
sites corrosivity determination/parameters – 3466
stabilisers (light), amines (hindered), losses – 8013
steel (coated), databases – 367
titanium dioxide – 8386
trim, automobiles – 3472
tropical conditions, Cuba, anticorrosives – 9452
water-bornes, formulation & – 2673
wood, sidings, finishes/repellents/fungi & – 1056
wood (coated) – 2687
wood (exterior)/finishes – 5919
zinc dust paints/acrylics – 1763
zinc silicate paints – 359
Weckerle GmbH
products/financial performance/developments/environment – 2212
Weighing
balances, solids content determination – 6119
dusts control – 8715
equipment (proprietary) – 6166
Weighing Equipment (Non-automatic Weighing Machines) (Amendment) Regulations 1988
provisions – 3928
Weilburger (UK) Ltd
plants, Runcorn – 9946
Weldable Coatings
aluminium/stainless steel powders, resins/nickel & – 5934P
binders/stainless steel, on steel (metal-coated) – 404P
corrosion resistance
—primers/topcoats – 2711P
—zinc dust paints (modified)/steel (zinc-coated) – 2680
electrical insulation, waxes etc – 6774P
epoxies/silicones/metal powders – 9620P
for stainless steel, primers/coatings – 1801P
for steel (metal-coated), epoxies – 8540P
for steel (zinc-coated), polymers/non-conductive powders – 9493P
primers (water-borne), polymers (amino-functional) – 408P
strips, steel (metal-coated)/acrylics – 4345P
zinc dust paints, hydrogen voids avoidance – 1787P
Welding
confined spaces, hydrocarbons exposure – 4585
explosions, trichloroethane tanks – 6196
laminates, steel/resins/steel – 2713P
lasers, coil coatings/vehicles (motor) – 3569
pretreatment after, oxalic acid/chelating agents etc – 3455P
resistance
—antifoulings – 3492P
—galvanised steel, phosphides particles – 6754P

Welding *(continued)*
—scale formation, inhibitors – 6747P
steel (zinc-coated)
—chromating/coatings – 3496P
—improvements/phosphides – 6019P
substrates (hot) from, coatings – 395P
welding rods (high chrome), hazards – 4596
Wesco Waterpaints Inc
history – 1380
Wet Strength
paper coatings etc &, insolubilisation – 4395
Wettability
by printing inks (water-borne) – 3404P
contact angles (dynamic) – 3749
nozzles, drops formation – 541
Wetting
– 6884
advancing, instabilities, experiments/theory – 3751
by polymers blends, theory/transitions – 7710
pigments, dispersion/positronium annihilation – 6092
plastics, promoters, inks (water-borne) – 5063P
polyethylene, surfaces (modified) – 1247
polymers
— 2008
—review – 5306
polytetrafluoroethylene, plasma treatment – 8679
printing inks (screen) – 6862
rate, surfaces curvature & – 3753
siloxanes/water, MW – 7720
surface free energy – 7297
Wetting Agents
acetylenes (hydroxylic) – 5070P
coatings, titanium dioxide saving & – 5616
polymers as – 8014
Wheels
aluminium
—anticorrosives – 9483P
—coatings, rheology/edges etc – 8529P
aluminium alloys
—coatings, silica/silanes condensates/glycols etc – 8543P
—silanes (hydrolysed)/polymers/silica – 9481P
White Lead
See also lead carbonate (basic) & lead sulphate (basic)
EEC directives (draft), buildings (historic, UK) – 4766
hazards, relative to petrol, history – 7058
manufacture
—history, failures, Sweden – 2259
—nineteenth century – 5614
statistics – 7944
White Spirit
See also mineral spirits
Wilhelm Becker AB
joint ventures
—now wholly owned – 677
—with Swiss – 7884
vapour curing – 7887
Williams Holdings
divestments, to ICI Australia Ltd – 2204
financial performance – 5540
Windeck Paints
acquisition
—by CH Industrials – 703
—by CH Industrials, effects – 7906
Window-frames
from plastics, painting/stages/weather resistance – 5096
wooden
—design/materials/finishes etc – 8501
—impregnation/first coatings factory – 5116
—industrial finishes – 8516
—water-bornes – 5011
Windows
automobiles
—guiding slots, abrasion-resistant coatings – 1885P, 2779P
—runners for, coatings – 5236P
—sealants – 5851P
—weatherproofing strips, lubricating coatings – 3560P
coatings, corrosion resistance, standards – 6359
sealants, water-bornes & – 4247
water-bornes, acrylics – 4245
wooden, coatings/defects/repair – 308
Windscreens
coatings, infrared absorption – 13P
vehicles (motor), adhesives – 5051
Winn & Coales International Ltd
acquisitions by, of Dimet Pty – 7856
Wire Coatings
application, theory/simulation/experiments – 2636
carboxylic acids (unsatd)/carbodiimides etc – 4424P
electrocoating, polyamide-imides – 9535P
electron spectroscopy (Auger) – 504
electron spectroscopy (Auger)/X-ray analysis – 7657
ethylene copolymers (halogenated)/cross-linking – 5228P
fires
—dripping resistance – 7586P
—toxic fumes avoidance – 2747P
flame retardance, fluoropolymers – 7586P
fluoropolymers, cyclic units (main chain) – 5185P
fungicides/flame retardance – 430P
high-solids, polyamides/polyesters – 429P
magnets
—polyamides/catalysts equilibriation – 6768P
—polyamides/polyesters/isocyanates – 6769P
polyamide-imides/isocyanates (blocked) – 5226P
polyamides/titanates, solvolysis equilibration – 1821P
polyester-imides
— 4109P, 5736
—removability during soldering – 9532P
polyesters, bisphenols/terephthalates units – 4375P
polyether-imides (aromatic)/fluoropolymers – 9536P, 9537P
polyether-imides/fluoropolymers – 6775P
polyimides, from isophorone compounds – 4372P
polyolefins, piperidine groups/stabilisers (heat) – 6839P
polyvinyl acetal/isocyanates (blocked)/carbodiimides/uretonimines – 5186P
radiation-curable, fluoropolymers/titanium dioxide/accelerators – 6225P
resins, types – 1102
self-bonding
—epoxies blends – 1825P
—friction (low), esters/polymers – 9538P
self-lubricating
—polyester-imides – 4109P
—polyurethanes/lubricants – 1828P

Wire Coatings *(continued)*
silicone rubber, mechanical properties/heat, modelling – 6864
thermosetting
—carbodiimides/isocyanate groups, high-speed – 2448
—siloxanes (unsatd)/siloxanes (Si-H) – 2505P
Wires
coated, bonding to boards – 8271P
extrusion coatings, processes/materials/mathematical analysis – 3546
flame-retardant coatings
—imides/siloxanes products – 6771P
—polyolefins/magnesium hydroxide etc – 2747P
heat-resistant coatings
— 429P
—mechanical properties retention – 6225P
—polyamides-imides/polyester-imides – 9534P
—polyimides/oligomers/isocyanates – 4429P
—polysulphones/thermosetting resins – 1105P
—silicon-containing polymers – 4374P
—vinyl chloride polymers – 1824P
moisture-curables, ethylene copolymers/silyl groups – 5963P
pianos, corrosion inhibitors – 1797P
polyurethane coatings (two-component) – 6770P
undercoats, polyketones/sulphones – 6838P
Wollastonite
statistics/markets/producers – 7939
treated, anticorrosives (water-borne) – 3959
Wolman
acquisition, by Hickson International – 3880
Wolstenholme Bronze Powders
acquisitions by, of part Johnson & Bloy – 673
Women
pregnant
—congenital defects/work during pregnancy – 1275
—glycol ethers/ether acetates – 2104
—plastics (reinforced) industry/birth weights – 4593
—problems, paternal occupations – 7767
—solvents (aromatic) – 1275
—solvents, cardiovascular malformations, infants – 2968
—solvents, pre-eclampsia/hypertension/Caesarian etc – 6179
volatiles (org), risks to suckling child – 4603
Wood
See also buildings, chairs, furniture, hardwoods, panels, piles, sculptures, ships, ships' hulls & window-frames
activation, phenolics gelation & – 5871
adhesives
—bond strength (initial) – 2580P
—curing/drying etc, monitoring – 4533
—factors/standards – 264
—for plastics &, adhesion – 1439
—types/selection/specification etc – 4207
—urea resins, standards – 3089
—wood extractives removal/bonds durability – 2846
adhesives (water-borne)
— 4217
—casein powders/standards – 1406
biodegradation
—buildings/causes/control – 7580
—testing – 4357
buildings, architects view/coatings etc – 8508
casks, coatings for wood/hoops – 1098
coated
—sulphur compounds at interfaces – 4325
—sulphurous acid effects – 4325
—weathering, repainting/weather resistance after – 8421
coatings
— 5140
—alkyds/urethane prepolymers – 8383
—compatibility bituminous products – 6959
—defects, types/control – 8518
—dipping in oil/aq layers – 1756P
—emissions, formaldehyde, factors – 2762
—film formers/organo-tin groups/nitrogen compounds – 9524P
—film thickness/microscopy – 8903
—manufacturers (German), mergers – 7167
—micropores, problems – 6806
—NADs – 8192
—permeability, comparison – 5318
—permeability, determination – 9755
—selection/comparison/pretreatment/primers – 6684
—stains/chemicals resistance – 8909
—statistics (UK) – 4677
—traditional/water-bornes/modern, testing – 2687
—tropical conditions, comparison – 2652
—wood processing wastes/enzymes – 1282P
contact angles, determination, cameras (video) – 1255
crackle finishes – 8526P
degradation, furniture (garden) – 1066
dusts
—phenolics &, respiratory systems – 1274
—respiratory systems, formaldehyde & – 2078
emulsion paints – 5024P
exterior
—coatings – 2684
—coatings, 'Which' reports – 6805
—coatings, book chapters – 743
—coatings, Tg etc – 6721
—coatings/relevant properties/requirements, standards – 724
—finishes (proprietary), weathering (natural) – 5919
—finishes, types/proprietary ranges – 3575
—finishing, Europe/USA practice – 5919
facades, renovation, defects – 6643
filling compsns (proprietary) – 9942
filling compsns (ultraviolet-curable) – 2167P
finishes
—information to users, especially volatiles – 2761
—manufacturers (Austrian) – 4734
—manufacturers (Italian) – 3065
—manufacturers (Italian) plants Spain etc – 4717
—manufacturers (UK) acquisition offers – 1381
—statistics (Italian)/companies – 8824
fire, regulations (UK)/standards/behaviour/protection etc – 4383
fire retardants, comparison plywood – 9540
fire-resistant coatings – 6777
flame retardants
—incorporation/painting over, etc – 4388
—phosphonium/melamine/nitrogen-containing – 1832P, 1833P
flame-retardant coatings, testing methods – 1107
FTIR (reflectance, diffuse), various, soft v hard – 6089
fungi, media selective for basidiomycetes – 7566

Wood *(continued)*
fungicides, benzimidazolylcarbamates (resin-bound) – 1819P
Indian, penetration, penetrants/species variations – 2717
industrial finishes – 8516
insecticides, thiophosphates (chlorinated) – 4367P
laminates, mechanical properties, glues effects – 4475
lasurs
—standards – 2229
—weathering/standards – 2230
lasurs (water-borne), stabilises/weathering – 5649
moisture &, coatings/lasurs/wood stains – 9400
moisture-curables, polymers/silyl groups/silanes – 9204P
painting
— 3101
—emissions – 2118
particles, sealers, polyurethanes & – 7442P
photocurables, acrylic/urethanes from rosin – 4647P
polyurethane coatings (moisture-curable) – 8193P
pretreatment, biodegradation resistance/water repellency – 8516
pretreatment/primers/finishes, weather resistance/interactions – 2665
primer sealers, against tannins – 5012
processing, wastes, coatings from enzymes & – 1282P
products for
—manufacturers (UK), performance etc – 5549
—market (UK)/statistics – 8830
—market surveys (UK) – 8959
—statistics/rival companies (UK) – 9954
protection
—products, manufacturers (Swiss) – 1377
—statistics/forecasts (UK) – 7125
—types – 350
sealants, siloxanes/polyvinyl chloride/lignin – 6615
shingles, renovation, stripping/acrylics/blistering – 314
sidings, Lirioden-dron/finishes/repellents/weathering/fungi – 1056
species (UK)/cultivation/wood/uses – 7932
surfaces, microscopy (acoustical), sub-surface & – 1263
thermomechanical analysis (dynamic) – 5273
transparent coatings, after organo-silicons treatment – 1802P
transparent coatings (proprietary), ultraviolet resistance etc – 349
treated
—ageing before testing – 3938, 7212
—coatings application/types – 5221
—electron microscopy/X-ray analysis – 6060
—emissions – 6204
—fungi, estuarine environment – 7578
—quality requirements – 5596
—storage, fungal colonisation – 2727
—tributyltin oxide in, determination – 9670
treatment
—biocides (specific) replacement/retention – 4355
—chemicals, companies acquisition – 3880
—industry, research emphasis/future trends – 3504
ultraviolet-curables
— 2987
—curing plants – 5400
—removable by aq alkalis – 3862P
varnishes
—market surveys/statistics/companies etc, UK – 8959
—nitrocellulose/plasticisers/wastes – 3582P
veneers, adhesives – 9273P
wastes
—acetic acid &, plastics modification – 9825P
—benzylation, thermoplastic products – 9810
water repellents
—isocyanates/chromium(III), FTIR – 3647
—testing – 2609
water-bornes
—acrylics – 2665
—acrylics (carboxylated) – 1661P
—acrylics (self-crosslinkable)/formaldehyde resins etc – 1662P
—dip coating, mixed systems – 5010
—penetration, alkyds/maleinised oils etc – 7390P
weathered
—painting, adhesion – 6045
—painting/weather resistance after – 8421
—restoration, pretreatment/coatings – 302

Wood Borers
marine
—control – 3519
—control, pyrethroids – 2730
—wood preservatives, organo-tins – 5945
polyurethane coatings &, penetration from baitwood – 7565

Wood Effect
equipment/techniques – 7486
techniques/materials – 320

Wood Preservatives
allenes, thiocyanates groups – 2739P
aminocarboxylic acids – 7569
ammonium fluorophosphates – 3533P
analysis, in wood, electron microscopy/X-ray analysis – 6060
application
—in situ, health/safety/environment precautions – 9980
—joinery (in situ), plugs/impregnation – 3506
—plants, guidance – 415
approved, lists (UK) – 4799
azaconazole, emissions from wood – 6204
benzimidazolylcarbamates (resin-bound) – 1819P
biocides (specific) replacement/retention – 4355
biocides/polymers, ammonium compounds – 3535P
biodegradation, by fungi – 5948
boron compounds, impregnation via vapours – 5956P
cancers, lymphomas – 9789
companies, acquisition by UK – 3880
compatibility, with coal tar/bitumens – 6959
detection – 8908
dioxolanes, chlorophenyl/triazinyl groups – 2737P
EEC directives (proposed) – 8850
environment & – 2721
extraction, by water, standards – 2228
fire retardance
—carbonates/borates – 3531P
—lanthanide derivatives – 2741P
fluoborates, water-insoluble/leaching resistance – 1820P
forecasts, Europe – 7141
fungicides, testing methods, review – 413
hazards, occupational/domestic buildings – 7031

Wood Preservatives *(continued)*
impregnation
—carboxylates/solvents – 3540P
—coatings after – 5221
isothiazolones/carboxylates – 3539P
joint ventures, Thailand – 3899
marine environment, fungal colonisation – 7578
market surveys, statistics/companies etc, UK – 8959
methylene dithiocyanate, testing/concentration – 3527
organo-chlorine compounds, carcinogenicity, solvents & – 2068
organo-tins
—effectiveness/temporal degradation – 5945
—marine exposure, effectiveness/temporal degradation – 5945
penetration tests, hardwoods (Indian) – 2717
pentachlorophenates, testing/concentration – 3527
pentachlorophenol, replacement, testing – 2731
pretreatment with, water repellency/coatings – 8516
pretreatment/remedial processes/DIY/future – 8451
proprietary
—approvals (provisional)/amendment – 6760
—Health & Safety Executive approvals – 5181, 7572, 8450, 9513
pyrethroids, termites/Limnoria spp & – 2730
regulations (Canadian) – 415
regulations (UK) – 9980
remedial, pentachlorophenyl laurate, solvents/emulsions – 2723
research emphasis (past)/future trends – 3504
ships (wooden), boron compounds – 1092
statistics (UK) – 4677
stilbene, substituents/structure/activity – 8452
tannins (condensed) – 9516
termites control, boron compounds – 9526P
testing
— 4357
—against Anobium punctatum , laboratory – 8944
—against Anobium punctatum, standards – 8942
—against Anobium sp, standards – 3934, 3937
—against Hylotrupes sp, standards – 3935, 3936
—field, ground contact – 7213
—Hylotrupes bajulus – 8943
—laboratory – 721, 722
—methods, review – 1093
—treated wood ageing before – 7212
—wood (treated) ageing before – 3938
testing (laboratory), alder wood – 5949
timber (post-harvest), comparison – 3509
timber treatment, factors/alternatives etc – 8458
tolerance, fungi – 3507
treatment with, butt pressure, standards – 3945
tributyltin oxide, wood analysis – 9670
tributyltin oxide in, determination – 9670
tropical conditions, performance/retention – 2718
uptake, ultrasonics – 5942
water repellents/hygroscopic agents/swellable etc – 3544P
water-borne
—borates/flame retardance/self-skimming – 7584P
—copper compounds, carboxylic acids/amines etc & – 428P
—forecasts, Europe – 7141
—pyridine oxide/ammonium – 5183P
wood (treated)
—air flow ageing before testing – 8946
—quality requirements – 5596
wood (treated) storage, colonisation – 2727
wood species (UK) & – 7932
zinc salts/permethrin – 4354
Wood Stains
– 8830
advantages/increasing use – 3576
durability, expectations (unrealistic) – 6803
emulsion paints over, hiding by – 2548
manufacturers (Austrian) – 4734
market surveys, statistics/companies etc, UK – 8959
moisture & – 9400
NADs – 3338, 8192
proprietary – 6803
semi-transparent, wood erosion, pigments/waxes – 5986
sidings, Liriodendron/weathering – 1056
statistics (UK) – 4677
ultraviolet radiation & – 2665
vinyl esters (branched) copolymers – 2406
water-borne, fences/testing – 8512
Woolworth PLC
paints, cans design – 5519
Word Processors
software, modification for more columns – 9964
Worker Adjustment & Retraining Notification Act 198-
US, plant closures/mass lay-offs – 3926
World Surface Coatings Abstracts
on-line searching, guidance – 9965
Wrinkle Finishes
over decorative patterns – 2796P
Wrinkling
photocurables, deliberate – 8775P
prevention, polyesters (unsatd)/additives – 1827P
Writing
materials, fragrance in microcapsules – 6611P
pictograms – 4988
pictograms (old), Mexico, colourants – 5612
polyethylene wax/rosin/soaps etc – 8303P
Writing Inks
azo pigments, copper/cobalt based – 2269P
colourants/alcohols, acid dyes/ammonium products – 7439P
erasable – 1012P
invisible, ultraviolet radiation development – 1711P
luminescence, europium chelates – 1015P, 1710P
polyethylene blends/zeolite (synthetic) etc – 8305P
polyvinyl butyral/carbon black – 4241P
rheology, polyvinyl butyral/solvent blends – 5068P
scratching avoidance, ethylene glycol – 5069P
water-borne compsns
—azo dyes – 6604P
—dyes/antioxidants – 276P
—for board etc – 5070P
—lubricants – 3408P
—phthalocyanine pigments – 2603P
—pigments/spherical resins particles – 2597P
waxes/colourants/glitter etc – 9314P

X

X-Ray Analysis
electron-probe, Auger simultaneous – 7657

X-Ray Analysis *(continued)*
ground layers, on violins etc – 9658
phosphate coatings – 3444
wood (treated), preservatives – 6060
X-Ray Diffraction
azo pigments – 7240
crystal structure, principles/polymers – 1908
ferric oxide (gamma-) – 6376
zinc oxide – 1193
X-Ray Fluorescence
analysers (proprietary), features/uses – 9697
phosphate coatings, zinc phosphate/metals particles – 6942
X-Ray Fluorescence Spectrometry
coatings, weathering/depth profiles – 2897
phosphate coatings, coating weight – 6923
silicon, in paints – 6922
titanium dioxide
—in paints – 8925
—trace elements – 2881
X-Ray Photoelectron Spectroscopy
See also electron spectroscopy for chemical analysis
X-Ray Scattering
liquid crystals – 1977
polymers, book chapters – 1977
small-angle
—book chapters – 1962
—particles, theory etc – 6983
—polymers blends – 6908
—polymers, book chapters – 1949
—silica, structure factor/concentration – 3686
X-Rays
flow visualisation – 6042
fluoropolymers treatment – 884
radiation-curables, colour generation – 8810P
resists
— 4645, 7826P
—acrylics (fluorinated) – 4630
—acrylics/titanates – 7812P
—after ultraviolet & mask removal – 8795P
—germanes (polymeric) – 6208
—isopropenylphenols polymers/sulphones – 3018P
—novolacs/diazoquinones – 3017P
—novolacs/diazoquinones – 3825P
—organo-germanium compounds – 4665P
—phosphates (acetylenes bridges) – 2985
—phosphors/chlorinated polystyrene – 6215P
—polyethylene (modified) – 619P
—silanes (polymeric) – 5476P
treatment with, polytetrafluoroethylene, effects – 7496
Xanthan Gum
cellulose derivatives similar rheology to – 4474
chromatography (hydrodynamic) – 514
solution properties, dilute/moderate – 3739
thickeners, silicates (lamellar) & – 6561P
viscosity (intrinsic), MW/ionic strength – 7643
viscosity/drag reduction – 3616
water-bornes, binders/microparticles – 6559P
Xanthene Dyes
dermatitis (contact) – 552
Xanthones
photoinitiators, aniline derivatives & – 614P
Xylene
bacteria tolerating presence – 5182
exposure
—ketones &, uptake/monitoring (biological)/interactions – 2090
—livers/serum bile acids – 4581
GC – 8914
hazards/toxicity/uses/properties/safety – 7221
monitoring (biological)
—expired air sampling – 5284
—painters – 7761
prices/markets/statistics, USA – 9924
statistics (US), exports – 3043
substituted, perfluoroalkyl groups, synthesis – 9007
Xylene-Formaldehyde Condensates
modified, by phenolics, water-bornes – 231P
powder coatings, epoxies & – 1104P
Xylenols
purification, isomers separation – 4864P
Xylose
synthesis, from lignocelluloses – 4143
Xylylene Compounds
polymerisation (in situ), consolidation by – 283P
Xylylene Diisocyanate
blocked, by ketoximes – 9162P
prepolymers, products with ketoximes – 9162P
tetramethyl derivatives
—blocking, coatings (one-pack) – 1652P
—polyurethane coatings (one-pack) – 4171P
Xylylenediamines
tetramethyl derivatives, polyurethane-ureas – 2476P

Y

Yachts
coatings, manufacturers, acquisition – 2207
Yellowing
coatings, over electrocoating, avoidance – 225P
electron beam-curables, acrylates (polyfunctional) – 5399
polyamides (aliphatic), thermo-oxidation & – 9128
polyesters (unsatd) – 4916
resistance
—acrylates/aminosilanes/isocyanates products – 929P
—heat-curables, epoxy/polyesters & isocyanates – 6841P
—moisture-curables, maleics/blocked polyamines – 3343P
—transparent coatings, basecoat/clear – 4994P
—urea-aldehyde condensates & – 170P
Yinguang Chemical Industry
toluene diisocyanate – 7863
Ylides
initiators, picolinium chlorophenacylides – 3240

Z

Zeolites
adhesives
—hydroxylics/isocyanates & – 8272P
—isocyanates/polyols & – 9267P
—polyurethanes/minimal foaming – 8273P
catalysts, esters hydrolysis – 4856
coatings, polyolefins &, adhesion promoters before – 327P
polyurethanes (two-component) – 169P
suspensions (aq), particulates (slightly-soluble) & – 777P
synthetic, writing inks – 8305P

Zeon Chemical
acquisitions by, of Goodrich elastomers – 7903
Zero-Lack GmbH & Co KG
profiles – 697
Zeta Potential
calcium carbonate (treated) – 1479P
determination
—& use/additives effects – 3710
—emulsions – 2905
—equipment/computers – 6998
—laser Doppler velocimetry – 3733
—methods/equipment/polymers – 6981
—of electrophoresis cells walls – 8661
determination/uses/interrelationship with solid & liquid, review – 8672
emulsions – 1242
fountain solutions/inks/emulsification – 7005
glycidyl copolymers/amines products – 854P
latices – 3710
particles (ellipsoidal), non-uniform – 5314
polyamides, particles, dyed/undyed – 7003
Ziegler Catalysts
copolymerisation, review – 3213
mechanisms/active sites, review – 3214
polymerisation, review – 3206, 3215
Zinc
adhesion to – 6721
alloys
—conversion coatings, chromium(VI)/phosphates etc – 6670P
—degreasing – 5870
—phosphating, vehicles (motor)/baths/processes etc – 1039
anticorrosive pigments coated by – 10P
chromate coatings, electrochemical measurements – 6710
chromating
—acids in formation, comparison – 6700
—borates/acidic, solutions/films composition – 5107
—coating simultaneous – 7495
cleaning, compsns – 6647
coatings
—interfaces/infrared spectra – 503
—on particles, anticorrosives, SG – 2705P
—polymers (chlorinated), carbon-chlorine splitting – 6701
—types/properties etc – 6733
conversion coatings
—chromium(VI)/phosphates etc – 6670P
—molybdates – 1042
corrosion
—air pollutants – 384
—products, marine/accelerated – 8380
electrodeposition, epoxies simultaneous – 7531
electropolymerisation on – 4883
in chromic acid, zinc dust paints over – 6739
oxygen reduction, products, alkaline media – 394
plated surfaces
—chromating, penetrants – 4288P
—pipes, pretreatment/anticorrosives – 4351P
products, manufacture, plants (Singaporean) – 7872
spots, in coatings, location/electrochemical measurements – 1049
sprayed
—between coatings layers – 8433P
—marine environment, performance/topcoats over – 1776
Zinc Acrylate
photocurables – 6217P, 6218P, 6219P
Zinc Aluminium Phosphate
anticorrosives (water-borne), testing/factors – 354
Zinc Borate
antimicrobial activity – 3523
Zinc Chloride
catalysts, polymers thermal degradation – 4947
complexes, with alkanolamines, coatings – 7562P
zinc dust paints – 1794P
Zinc Chromate
anticorrosives, EM/chlorides immersion etc – 7008
anticorrosives (water-borne) – 354
antimicrobial activity – 3523
carcinogenicity, review – 9762
pigments, analysis, standards – 8880
replacement, partial calcium carbonate – 7949
Zinc Compounds
adhesives (epoxy), aluminium phosphate & – 4223P
carboxylates, anticorrosives – 8977P
coatings, siloxanes & – 1171P
complexes, with acrylics, corrosion inhibitors – 8439P
corrosion inhibitors, cathodic protection & – 4298
effluents, treatment, ultrafiltration – 7050
odours control by – 1512P
wood preservatives, isothiazolones & – 3539P
Zinc Driers
See driers
Zinc Dust
encapsulation – 2683
interactions, with binders – 6535
manufacture, plants (Singaporean) – 7872
modified, by ferrites – 7
replacement (partial), alloy of zinc/iron oxide – 5925
thermogravimetry – 7647
Zinc Dust Paints
aluminium powders/stainless steel powders – 2680
bridges, polyurethanes on epoxies on – 1853
corrosion (marine)/salt spray tests – 8380
corrosion resistance, epoxies (linear) – 1052
electrochemical measurements
— 352
—mechanisms/binders/zinc content – 360
epoxies/chromates – 4349P
fluoropolymers etc, fluoropolymers/chromium powders over – 9494P
for steel (zinc-coated) – 1803P
friction, between steel faces – 2709P
history/developments/types – 8413
manufacture/atmospheric exposure/porosity etc – 9469
marine environment, performance/topcoats over – 1776
modified, alloy of zinc/iron oxide – 5925
moisture-curables, bridges (steel) – 1763, 5133
one-pack, stability (storage)/zinc chloride – 1794P
over zinc in chromic acid – 6739
pipes, epoxies over – 1769
powder coatings, corrosion resistance/components – 9476
proprietary
— 6730
—epoxies – 1777
radiation &, activation – 5913
ships, shop primers, overcoating not removal – 5907
silicones, & phosphates/molybdates – 5167P

Zinc Dust Paints *(continued)*
stability (storage), developments – 2683
waxes, no solvents – 395P
weldable coatings, hydrogen voids avoidance – 1787P
zinc powders/nickel powders – 8435P, 8436P
Zinc Ethylenebis(dithiocarbamate)
See zineb
Zinc Naphthenate
wood preservatives, testing – 5949
Zinc Nitroisophthalate
anticorrosives, electrochemical measurements – 2256
Zinc Oxide
coated, by carbon, nm layers, conductive pigments – 2261
coatings
—phosphorothioates & – 6808
—ultraviolet resistance – 1050
conductive coatings, graphite/inorg binders & – 6837P
electrical insulation, chemical resistance – 5187P
emulsion paints – 8224P
manufacture
—from chlorides, low chloride products – 5629P
—from zinc metal, new grades – 6374
—hyposulphite wastes, whiteness – 7973P
—size distribution (narrow) – 6385P
modified, by titanium dioxide/ultraviolet absorbers gels – 3994
oxides (mixed)
— 5632P
—Al/Mg/Zn – 5168P
—anticorrosives – 3974P
photochemistry, water/hydroxyl radicals – 8388
powder coatings, phosphines &, synergism – 5799P
powders, particle shape by infrared/X-rays – 1193
statistics (Japanese) – 6252
statistics/uses – 7944
titanium dioxide modified by, effects – 4819
Zinc Phosphate
anticorrosives
—benzothiazolylmercaptosuccinic acids – 2656
—effectiveness, rural/polluted etc – 355
—electrochemical measurements – 2256
—railways (Italian) – 1069
—review – 4812
—spheroids/excess oxide – 7966P
anticorrosives (proprietary) – 9402
anticorrosives (water-borne) – 354
antimicrobial activity, studies – 3523
modified
—anticorrosive primers (proprietary) – 3465
—anticorrosives, extenders/pretreatment effects – 749
phosphate coatings, thermal stability – 1033
phosphating
— 3453P, 5108
—activation before – 2640P
—calcium ions/morphology/corrosion resistance – 5861
—developments/vehicles (motor) – 5869
—heavy, corrosion inhibitors absorption – 5112
—hopeite/phosphophyllite – 3444
—hopeite/phosphophyllite, chemistry, electrocoating/stoving/use – 2686
—hopeite/phosphophyllite/composition/properties etc – 9344
—hydration degree – 4282
—low zinc, before electrocoating (cathodic) – 9343
—lower temp – 334P
—metal ions/polyphosphates/chelating agents – 8357P
—metals particles, ESR etc – 6942
—modified, by polyacrylic acid – 322
—modifying ions, mechanisms/performance – 313
—monitoring, baths etc analysis, automation – 9340
—nickel ions, & conditioning – 4284P
—parameters/electrochemical measurements – 321
—process/advantages etc – 5885
—room temp/measurements – 6658
—steel (zinc-coated), adhesion (wet) – 4282
—steel (zinc-coated)/electrocoating (cathodic) & – 3454P
—surface free energy obtained – 5322
—temp (ambient) processes – 4272
—temp (low), thirty-sixty deg C – 2648P
—titanium phosphate activators synthesis – 8360P
—treatment before/defects avoidance – 339P
—zinc/nickel/aluminium/magnesium etc ions – 337P
thermogravimetry – 7647
Zinc Potassium Chromate
See also zinc chromate & zinc yellow
Zinc Salts
proprietary, wood preservatives – 4354
Zinc Sulphide
modified, phosphorescent materials, X-rays – 6215P
synthesis – 8987P
Zinc Tetroxychromate
See zinc chromate & zinc chromate (basic)
Zinc Titanate
polysulphides (aromatic) & – 4846P
Zinc White
See zinc oxide
Zinc Yellow
See also zinc potassium chromate
Zinc-rich Paints
See zinc dust paints
Zinc/Ethyl Silicate Paints
characteristics – 9469
curing, monitoring/topcoating – 6735
Zinc/Silicate Paints
electrochemical measurements – 360
for steel (zinc-coated), chromates – 1089P
from local materials (Polish), corrosion resistance – 5139
marine environment, topcoats (various), results – 2666
petroleum products contact – 4328
surfaces, treatment with silanes/polymers etc – 4341P
temp (high) – 9441
water-borne, one-coat, oil refineries – 5136
weathering, natural/accelerated – 359
zinc content, effective levels – 4322
Zircoaluminates
adhesion promoters, adhesion (wet)/corrosion resistance – 2297
technology, transfer – 4704
Zirconates
anticorrosives (water-borne), silanes & – 5935P
condensates, polyesters/silyl groups & – 9598P
fluorinated, anticorrosives etc – 9498P

Zirconium
chelates
—cross-linking agents – 6419P
—polymers, main chain zirconium – 6044
—products with benzidine – 2486
—with alkanolamines – 4875P
chemistry/compounds toxicology – 2304
Zirconium Compounds
adhesion promoters, for inks – 2304
adhesives surfaces treatment, adhesion reduction – 2973
anticorrosives, heat exchangers fins – 5178P
antistatic coatings – 1169P
catalysts, for silicones/siloxanes – 2567P, 2780P
coatings
—ketonic compounds & – 4187P
—siloxanes (ladder) & – 6526P
coupling agents, anticorrosives – 2691
cross-linking agents, for carboxylated – 2304
hydrolysed, coatings, siloxanes/silyl groups & – 8437P
paper recycling – 2973
primers, aminosilanes/polymers & – 2802P
Zirconium Driers
See driers
Zirconium Oxide
abrasion-resistant coatings, nitrocellulose & – 1014P
coatings, on mica (coated) – 29P
hydrated, coatings on mica (coated) – 28P
oxides (mixed), Ti/Zr – 1487P
polymeric, from alkoxides, paramagnetism – 3817
porosity, by mercury – 2920
Zirconium Sulphate
tetrahydrate, synthesis, zirconium sources/sulphuric – 3985P
Zwitterions
benzidine (chlorinated, sulphonated) – 8979P
groups
—amino resins, heat-curables – 286P
—polymers, antifoulants, metals release – 8473P
phosphatides – 201P
pyridinium groups/sulphonate groups – 3287
sulphonium salts, from tetrahydrothiophene – 7358

SEND FOR A FREE SAMPLE COPY

WORLD CERAMICS ABSTRACTS

(formerly *British Ceramics Abstracts*)

Edited by: **DAVID MURFIN,** *Ceram Research, Queen's Road, Penkhull, Stoke-on-Trent, ST4 7LQ, UK*

World Ceramics Abstracts is a new monthly journal and online database produced by British Ceramic Research Limited providing fast and exhaustive information on high and low-tech ceramics. More and more uses for ceramics in all areas of manufacturing technology are being developed and detailed coverage of the world-wide literature on the manufacture, processing, and applications of ceramics is becoming essential in the world of automotive and aerospace engineering, electronics, transport, packaging, optics, medicine, and surgery. *World Ceramics Abstracts* provides commercial news vital to the industry and even covers conferences relevant to the area of ceramics technology.

Experts at Ceram Research scan new books, journals, newsletters and conference proceedings to present the most detailed and up-to-date coverage of ceramics technology available; a guide, with summaries, to all that is vital to researchers, manufacturers, suppliers, and end-users in today's ceramics industries. The information is also held online in the CERAMICS database, available exclusively via ORBIT Search Service, containing over 46,000 abstracts and is updated every two weeks.

Coverage: Commercial and economic information, including company news, industrial relations, marketing, and statistics; legislation and standards; health and safety; raw material and monomers; building ceramics; inorganic polymers; glass; compounding ingredients; domestic ceramics; semi-finished products; general and specialized applications; technical ceramics, including electroceramics; processing, treatment, and machinery; and properties and testing.

(00879)
1990: Volume 2 (12 issues)
Annual subscription (1990) **DM 465.00**
Two-year rate (1990/91) **DM 883.50**
ISSN: 0957-8897

PERGAMON PRESS

Member of Maxwell Macmillan Pergamon Publishing Corporation

Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press, Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, USA

Advertising rate card available on request. Back issues and current subscriptions are also available in microform.
The DM prices shown include postage and insurance. For subscription rates in the Americas, Japan, UK and Eire please contact your nearest Pergamon office. Prices and proposed publication dates are subject to change without prior notice.

SEND FOR A FREE SAMPLE COPY

EUROPEAN POLYMER JOURNAL

Founder Editor: **M STACEY, FRS,** *University of Birmingham, UK*
Joint Editors-in-Chief: **J C BEVINGTON,** *Department of Chemistry, The University, Lancaster, UK* and **J V DAWKINS,** *Department of Chemistry, The University of Technology, Loughborough, Leicestershire, UK*

This journal acts as a medium for the exchange of research in the area of macromolecular substances, both synthetic and natural, and publishes results bearing on the physics or chemistry of polymers. Papers may fall either into the category of original papers dealing with substances of high molecular weight, or that of review articles covering the literature on topical aspects of polymer science and technology. The languages of the journal are English, French, German and Italian; for all papers an abstract is provided, and in the case of the latter three languages the abstract also appears in English translation.

A Selection of Papers
H DAOUST & P FERLAND (Canada), Solvent-induced conformational change of poly-(l-ornithine) and poly(l-lysine) hydrobromides in water-2-chloroethanol mixed solvent.
R S DAVIDSON & C LOWE (UK), A study of some photocrosslinkable resins using i.r spectroscopy.
P HODGE & A A NAIM (UK), Synthesis of crosslinked polymers containing benzoyl peroxide groups and their use as initiators.
M NASIR & C H CHOO (Malaysia), Cure characteristics and mechanical properties of carbon black filled styrene-butadiene rubber and epoxidized natural rubber blends.
A MATSUMOTO, H ANDO & M OIWA (Japan), Gelation in the copolymerization of methyl methacrylate with trimethylolpropane trimethacrylate.
M A ZHURAVLEV & V B IVANOV (USSR), Mechanism of photochemical dehydrochlorination of poly(vinyl chloride).

Indexed/Abstracted in: *Curr Cont ASCA, Cam Sci Abstr, Chem Abstr Serv, Curr Cont/Phy Chem & Earth Sci, INSPEC Data, Pol Sci Tech Data, RAPRA Data, Curr Cont Sci Cit Ind, Curr Cont SCISEARCH Data.*

(00294)
1990: Volume 26 (12 issues)
Annual subscription (1990) **DM 1420.00**
Two-year rate (1990/91) **DM 2698.00**
ISSN: 0014-3057

PERGAMON PRESS
Member of the Maxwell Macmillan Pergamon Publishing Corporation
Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford NY 10523, USA

Advertising rate card available on request. Back issues and current subscriptions are also available in microform.
The DM prices shown include postage and insurance. For subscription rates in the Americas, Japan, UK and Eire please contact your nearest Pergamon office. Prices and proposed publication dates are subject to change without prior notice.

SEND FOR A FREE SAMPLE COPY

PAINT TITLES

Published by the Paint Research Association

Editor: **S C HAWORTH,** *Paint Research Association, Waldegrave Road, Teddington, Middlesex TW11 8LD, UK*

A weekly, rapid publication magazine, *Paint Titles* provides an alerting service listing some 200 article titles in each issue arranged under 21 section headings for easy reference. Most of the articles mentioned are subseqently abstracted and will appear on the *World Surface Coatings Abstracts* database.
Where necessary titles are expanded to give extra information, but the essence of the publication is to provide an alerting service of new articles of interest to the paint and surface coatings industry.

Subject Headings
Pigments, extenders and dyestuffs.
Solvents and additives.
Natural resins.
Synthetic resins.
Paints and coatings: general.
Paints and coatings: waterborne.
Powder coatings.
Printing and recording materials.
Manufacturing machinery and processes.
Pretreatment and application.
Weathering corrosion and fouling.
Physical properties and tests.
Chemical properties and analysis.
Industrial hazards.
Pollution; waste treatment.
Management marketing and information.
Market news and statistics.
Adhesives, sealants.
New books.
Patent supplement.

(00729)
Subscription Information
1990: Volume 20 (52 issues)
Annual subscription (1990) DM 1100.00
Two-year rate (1990/91) DM 2090.00
ISSN: 0144-4425

PERGAMON PRESS
Member of Maxwell Macmillan Pergamon Publishing Corporation
Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, UK
Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, USA

Advertising rate card available on request. Back issues and current subscriptions are also available on microform.
The DM prices shown include postage and insurance. For subscription rates in the Americas, Japan, UK and Eire please contact your nearest Pergamon office. Prices and proposed publication dates are subject to change without prior notice.

PERGAMON
SCIENTIFIC PUBLISHING
AT ITS BEST

Clinical & Medical Research
Electrical & Electronic Engineering
Industrial Technology
Agriculture, Food Science & Nutrition
Civil & Structural Engineering
Physiology & Biophysics
Plant & Ecological Science
Biological Sciences
Information Science
Visual Sciences
Cancer Research
Pharmacology
Social Studies
Chemistry
Entomology
Energy
EFL/ELT
Physics
Biochemistry
Mathematics
Metallurgy
Immunology
Applied Chemistry
Neurosciences
Analytical Chemistry
Computer Science
Mechanical Engineering
Chemical Engineering
Astronomy & Astrophysics
Psychology & Psychiatry
Education & Child Studies
Systems Engineering, Automation & Control Engineering
Geosciences & Oceanography
Materials Science & Technology
Economics & Social Planning
Database Publications
Management Sciences & Business Studies
Environmental Science & Water Technology

Pergamon Press plc
Headington Hill Hall
Oxford OX3 0BW
UK

Pergamon Press Inc
Maxwell House
Fairview Park
Elmsford NY 10523 USA

Member of Maxwell Macmillan Pergamon Publishing Corporation

Printed by The Cotswold Press Ltd. Oxford U.K.